

4 Queensland

The elements of the Council of Australian Governments (CoAG) water reform program that are relevant for Queensland in this 2003 National Competition Policy (NCP) assessment are: water and wastewater pricing; the provision of water to the environment in stressed and overallocated rivers; intrastate water trading arrangements; the remaining institutional reform requirements (primarily integrated catchment management); the implementation of the National Water Quality Management Strategy (NWQMS); and the completion of the review and reform of water industry legislation that restricts competition. In addition, Queensland has under consideration a new rural water infrastructure project — the Burnett River Dam and associated weirs — that it must show satisfies the CoAG requirements on economic viability and ecological sustainability. The National Competition Council assessed Queensland's compliance with the CoAG obligations in these areas in this 2003 NCP assessment. As required by CoAG, the Council also considered public education and consultation activity in the reform areas assessed. In addition, the Council reported on progress by Queensland towards meeting water reform obligations on rural water pricing and the conversion of existing water allocations to water entitlements (which will be assessed in 2004) and the provision of water to the environment (which will be assessed in 2005).

4.1 Water and wastewater pricing

Full cost recovery

Governments are to set prices so water and wastewater businesses earn sufficient revenue to ensure their ongoing commercial viability but avoid monopoly returns. To this end governments agreed that prices should be set by the nominated jurisdictional regulator (or its equivalent) as follows.

- To be viable, a water business should recover at least the operational, maintenance and administrative costs, externalities, taxes or tax equivalents (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement. Dividends should be set at a level that reflects commercial realities and simulates a competitive market outcome.

- To avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities (defined for the purpose of the pricing obligation to be natural resource management costs attributable and incurred by the water business), taxes or tax equivalent regimes, provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital.
- In determining prices, the regulator or equivalent should determine the level of revenue for a water business based on efficient resource pricing and business costs. Specific circumstances may justify transition arrangements to that level. Cross-subsidies that are not consistent with efficient and effective service, use and provision should ideally be removed.
- Where service deliverers are required to provide water services to classes of customers at less than full cost, the cost of this should be fully disclosed and ideally paid to the service deliverer as a community service obligation.
- Asset values should be based on deprival value methodology unless an alternative approach can be justified, and an annuity approach should be used to determine medium to long term cash requirements for asset replacement/refurbishment.
- Transparency is required in the treatment of community service obligations, contributed assets, the opening value of assets, externalities including resource management costs, tax equivalent regimes and any remaining cross-subsidies.

Reference: CoAG water reform agreement clauses 3(a)–(d); and guidelines for the application of section 3 of the CoAG strategic framework and related recommendations in section 12 of the expert group report (CoAG pricing principles)

Local government water and wastewater services

Assessment issue: Queensland is to demonstrate that water and wastewater pricing by local government providers will achieve full cost recovery, in accordance with the CoAG pricing principles. In the 2002 NCP assessment, the Council found that all local government water and wastewater businesses with greater than 1000 connections had either implemented full cost recovery pricing or resolved to implement full cost recovery pricing by 30 June 2003. Only six local government businesses, all with less than 1000 connections, had not implemented or committed to implement full cost recovery. The Council indicated that in the 2003 assessment it would seek information on the outcomes of the commitments to implement full cost recovery.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing principles

Local government provides urban water and wastewater services in Queensland. Of the 125 local governments in Queensland, 124 provide water services and 115 provide wastewater services. Queensland applies a three-tier framework, whereby it identifies local government water and wastewater businesses according to size: either type 1, type 2 or other. Types 1 and 2 are operated by the 18 largest local governments and account for over 83 per cent of water connections in the State. Some 68 water and wastewater businesses have more than 1000 property connections.

The water and sewerage businesses of the 18 largest local governments are required under the *Local Government Act 1993* to achieve full cost recovery and apply consumption-based pricing unless they can show that doing so would not be cost-effective. The Queensland Government does not require the water and sewerage businesses of the remaining 106 local governments to implement these pricing reforms, although it encourages implementation via NCP financial incentives for local governments that implement reform and via its Business Management Assistance Program.

The Queensland Government allocated \$150 million of its total \$756 million in competition payments (in 1994-95 prices) to local governments as an incentive for them to implement NCP reforms (Queensland Government 2000). The Business Management Assistance Program provides additional support with reform implementation to local governments outside the 18 largest. The Government advised that, since the 2002 NCP assessment, the Business Management Assistance Program has focused on mentoring and has developed simplified guides to implementing various aspects of the CoAG reform obligations. Recently, the program released a business management compliance policy and manual. The manual provides local governments with a simplified ongoing compliance process aimed at ensuring they continue to apply competition reforms and are able to integrate the required reforms with their existing policies and processes. The process is endorsed by the Queensland Competition Authority.

Each of the 97 local governments participating in the Business Management Assistance Program developed an action plan for implementing the water reforms and was assigned a mentor to provide ongoing assistance with the reform task. Representatives from 60 local governments attended workshops and training programs delivered under the program.

The Queensland Competition Authority annually assesses local governments' compliance with full cost recovery obligations. The authority's assessment covers: the recovery of direct and indirect costs; the development of a method for allocating administrative and overhead costs; the valuation of assets via the deprival method; the adoption of an appropriate method of depreciation for assets; the appropriate treatment of contributed assets; and optimisation of the asset base.

Queensland annually releases service cost and service standard benchmark information on local government water and wastewater businesses in the Queensland Local Government Comparative Information Report. This report is available on the Department of Local Government's web site.

Full cost recovery by the 18 largest local government water and wastewater service businesses

Queensland advised that 17 of the 18 largest local governments applied all elements of the CoAG pricing guidelines for full cost recovery and earned appropriate returns on capital. The exception is Bundaberg Council which implemented all elements of full cost recovery except the identification and

transparent reporting of community service obligations (CSOs). All water and sewerage businesses earned a positive return on capital after tax in 2001-02 except Thuringowa. Queensland indicated that Thuringowa's return on capital is a preliminary figure — one that is yet to include dividend revenue from the transfer of assets to NQ Water and that excludes revenue for performing CSOs (pending clarification of the validity of the CSOs). Table 4.1 shows the return on capital after tax for each of the 18 largest water and wastewater providers.

Table 4.1: Return on capital after tax — the 18 largest local governments in Queensland, 2001-02

<i>Local government</i>	<i>Return on capital after tax (%)</i>
Brisbane	8.1
Bundaberg	8.5
Caboolture	8.2
Cairns	2.6
Caloundra	2.6
Gold Coast	8.2
Hervey Bay	3.8
Ipswich	5.2
Logan	5.0
Mackay	4.7
Maroochy	6.4
Noosa	4.5
Pine Rivers	3.2
Redland	4.5
Rockhampton	4.0
Thuringowa	-0.5
Toowoomba	5.0
Townsville	8.3

Source: Queensland Government (2003, unpublished)

Full cost recovery by local government businesses with more than 5000 connections (excluding the 18 largest)

There are 11 local government water and wastewater service businesses with more than 5000 connections. Combined, these businesses account for 7.4 per cent of all water connections in Queensland. Queensland reported that 10 of these businesses achieved full cost recovery in 2001-02 in accordance with the lower bound of CoAG full cost recovery. The other business — Beaudesert — earned a return of -3.9 per cent on pre-tax capital. Queensland indicated that several factors underpinned the Beaudesert outcome, including (1) an additional once-off depreciation expense being incurred during the financial year, (2) the asset base being nonoptimal, and (3) revenue being understated because CSOs were not independently costed and funded. Advice from the

Queensland Competition Authority indicated that Beaudesert rectified these problems.

Full cost recovery by local government businesses with 1000–5000 connections

There are 39 local government water and wastewater service providers with 1000–5000 connections. Combined, these businesses account for 7.8 per cent of water connections in the State. Queensland reported that 34 of the 39 businesses had achieved at least the lower bound of CoAG full cost recovery or had most elements of full cost recovery in place in 2001-02. Four businesses — Sarina, Broadsound, Banana and Bowen — were yet to implement any elements of full cost recovery. Belyando provided insufficient information to establish its level of full cost recovery.

Discussion and assessment

The data provided by Queensland indicate that several water service providers with more than 1000 connections were not operating in accord with CoAG full cost recovery obligations in 2001-02. Queensland advised, however, that current compliance is probably greater than the 2001-02 data show — a claim that is underpinned by the continuing support (including the Business Management Assistance Program) that the Queensland Government provides to local governments to help them to implement reform. Queensland expected the Queensland Competition Authority's next assessment of reform progress to show substantial advances towards full cost recovery by the water businesses with more than 1000 connections that did not achieve full cost recovery in 2001-02.

Queensland's progress towards achieving the CoAG full cost recovery obligation is sufficient for the 2003 NCP assessment. The Government has a process that should help all remaining local government water businesses with more than 1000 connections to achieve full cost recovery. For the 2005 NCP assessment, the Council will expect Queensland to show that all water service providers with more than 1000 connections are achieving full cost recovery.

NQ Water

Assessment issue: Bulk water suppliers are to charge for water on a volumetric basis, to recover all costs and earn a positive real rate of return on the written-down replacement cost of their assets. The financial information on NQ Water provided by Queensland for the 2002 NCP assessment related to the operation of the water supply board before commercialisation, competitive neutrality adjustments and the application of full cost pricing principles. In the 2002 NCP assessment, the Council indicated that in the 2003 assessment it would consider whether, post-commercialisation, NQ Water is achieving full cost recovery.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: Water reform agreement, clause 3(a)

NQ Water is a commercialised joint local government entity — formed from the Townsville–Thuringowa Water Supply Board — that provides bulk water services to the Thuringowa City Council and the Townsville City Council. The entity traded as NQ Water for the first time in 2001-02.

NQ Water advised the Queensland Government that it was substantially achieving full cost recovery at June 2003, including the:

- recovery of direct and indirect costs associated with supply;
- valuation of assets based on the deprival value method;
- depreciation of assets based on the deprival value allocated over the assets useful life;
- achievement of a rate of return equivalent to the industry benchmark; and
- identification and funding of CSOs.

NQ Water engaged consultants to help develop its remaining full cost recovery reforms.

Discussion and assessment

While Queensland provided no financial data on NQ Water's cost recovery, the elements of CoAG full cost recovery appear to have been considered in the setting of the business's cost recovery objectives. When it next assesses this area of reform in 2005, the Council will expect Queensland to show that NQ Water is achieving full cost recovery.

Rural water and wastewater services: progress report

Progress report: Queensland is to demonstrate significant progress towards achieving full cost recovery for irrigation districts. In the 2001 NCP assessment, the Council noted that price paths to achieve full cost recovery had been set for many of the irrigation schemes. The Council indicated that it would monitor these price paths and seek to ensure sufficient information is being provided through customer councils to enable customers to have informed input in the operation of schemes and to assess whether the benchmarked efficiency improvements in irrigation schemes are being achieved.

Next full assessment: The Council will next assess rural full cost recovery and pricing reform in 2004.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing guidelines

In the 2001 NCP assessment, Queensland reported that irrigation accounted for 65 per cent of total water use, while stock and domestic use, industry use (including mining) and power generation represented 14 per cent, 3 per cent and 1 per cent respectively. SunWater, a Government owned corporation, is the State's largest water service provider, accounting for nearly 50 per cent of all water consumed in the State. SunWater supplies 27 irrigation schemes, accounting for 40 per cent of the water used for irrigation.

Queensland's history of heavily subsidising water prices for irrigation means that there will need to be significant price increases to achieve even the bottom of the cost recovery price band set by the CoAG pricing principles. Queensland adopted a two-pronged approach to cost recovery. SunWater is required to improve its efficiency and reduce costs by 15 per cent by 2004, and there is a five-year price path to financial viability for 25 of SunWater's 27 schemes, developed in consultation with scheme participants (Queensland Government 2001). Queensland advised that the current irrigation water pricing arrangements reflect the five-to-seven year price path that the Queensland Government set in October 2000. This price path is designed to ensure the majority of irrigation schemes reach at least financial viability by 2004-05.

Given that a new set of prices needs to be in place by 2005, the Queensland Government commenced consultation with SunWater customers in mid-2002, to outline the issues that need to be considered in developing the new price paths. Called 'talking water reform', this pre-policy engagement involves meetings with customer councils in irrigation schemes throughout the State. During 2002, Queensland finalised price paths for the Bowen–Broken and Kelsey Creek schemes and the Pioneer Valley Water Board. Price paths for the Callide and Eden Bann Weir schemes remain outstanding. Queensland indicated that the hydrological nature of the Callide scheme is difficult to model and that a price path cannot be prepared until this modelling is completed. The Eden Bann Weir has a small number of customers, and Queensland expects to finalise the price path for the weir in 2003.

Dividends

Assessment issue: Dividends, where required, are to be set at a level that reflects commercial realities and simulates a competitive market outcome. In the 2001 NCP assessment, the Council received insufficient information from Queensland to determine whether Queensland's method for determining dividend levels (or the actual dividend payments) reflects commercial realities.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing guidelines

The level of dividend payable by a local government owned corporation is governed by s.711(6) of the Local Government Act. This section states that a corporation's dividend for a financial year must not exceed its profits, after excluding provision for income tax or its equivalents, and any unrealised capital gains from the upward revaluation of noncurrent assets. In relation to water and wastewater businesses that do not operate as local government-owned corporations, the Queensland Competition Authority assesses any internal dividend payments against the corporations law benchmark that dividends should not exceed 100 per cent of accumulated after-tax profit.

Further, the Queensland Audit Office has a mandate to comment on the reasonableness and appropriateness of any internal local government transaction. This mandate extends to dividend payments from business units to their local government owner. The Queensland Audit Office thus routinely monitors all Queensland local governments.

Discussion and assessment

The Council considers Queensland complies with the CoAG obligation relating to dividend payments, because the corporations law (or an equivalent mechanism) covers all local government water and wastewater service providers in Queensland that operate under the Local Government Act. The Queensland Competition Authority mechanism, which applies the corporations law provision on dividend payments, covers businesses that do not operate as a local government-owned corporation and Queensland Audit Office mechanisms cover all local government providers. These mechanisms are a significant safeguard against the payment of inappropriately high dividends and should ensure dividend payments policies reflect commercial practice.

Externalities

Assessment issue: Queensland is to transparently show how water and wastewater prices incorporate externalities (defined for water pricing as the environmental and natural resource management costs attributable to and incurred by water businesses). In the 2002 NCP assessment, Queensland reported that the Business Management Assistance Program does not consider externalities, so policy-level consideration is needed.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a)(i); CoAG pricing principles; Expert group report on externalities

Queensland's *Water Act 2000* requires all water service providers that operate bulk infrastructure to hold a resource operations licence that imposes, among other conditions, environmental requirements relating to the operation of the infrastructure. The water service providers are required to meet the cost of complying with the licence conditions. Queensland advised that service prices include the costs of complying with environmental requirements where those requirements are imposed on a service provider by a third party such as a State regulatory body.

For water services, Queensland is currently assessing natural resource management costs, as well as investigating the consequences for pricing of externalities and scarcity. It is undertaking this work as part of a public review, for which it released a scoping paper, *Value of water*. As an interim measure, Queensland introduced a water licence fee and a water harvesting charge. For wastewater services, Queensland is reviewing the extent to which the Environment Protection Authority's charges reflect the costs incurred by the authority in licensing businesses and monitoring their performance. Queensland undertook to report on this work in the 2004 NCP assessment.

Discussion and assessment

While externalities are addressed via a range of decision tools, the CoAG pricing principles explicitly require water and wastewater businesses to recover the environmental and natural resource management costs attributable to and incurred by them, and to ensure transparent pricing in relation to these costs. Queensland advised in previous NCP assessments that prices include natural resource management costs, but provided no information to demonstrate the extent of this practice or to show that water and wastewater prices transparently reflect the cost of natural resource management associated with water use. Queensland's review of natural resource management costs and the extent to which prices should reflect these costs should, however, lead to greater transparency in the treatment of externality costs. The Council will revisit this issue in the 2004 NCP assessment, where it will look for Queensland to report on the outcomes of the review.

Consumption-based pricing

Assessment issue: Prices are to reflect the volume of water supplied, to encourage more economical water use and to defer the need for costly investments, where it is cost-effective to introduce consumption-based pricing. In the 2002 NCP assessment, the Council had not received sufficient evidence from Queensland to be satisfied that Queensland had met obligations regarding:

- the introduction of two-part tariffs by local government water and wastewater service providers, or satisfactory evidence where consumption-based pricing has not been introduced that introduction is not cost-effective;
- NQ Water's use of appropriate charging arrangements its bulk water supplies; and
- the introduction of trade waste charges where they are cost-effective.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a)–(c)

The 18 largest local government businesses

Queensland stated that all of the 18 largest local governments except Thuringowa, Rockhampton and Townsville use appropriate two-part-tariffs for pricing their water services (Queensland Government 2003, p. 71).

- Thuringowa is phasing out its water pricing pilot scheme, whereby customers can choose to stay on an allowance/excess arrangement or go on a two-part tariff. Thuringowa indicated that all residential users will move onto a two-part tariff in 2003-04.
- Rockhampton charges residential customers a flat annual fee of \$472 for water use. Its study of the cost-effectiveness of introducing a two-part tariff found that the cost of metering the arrangement would not be cost-effective. Rockhampton is now metering all residential water consumers, however, and advised that this will involve introducing a two-part tariff for residential users by 2004-05. Rockhampton already applies a two-part tariff for commercial and industrial users.
- Townsville charges residential customers \$403 per year for a water allowance of 776 kilolitres. Consumption in excess of this allowance is charged at \$1.23 per kilolitre. Townsville decided not to introduce consumption-based pricing for residential customers. In a supplementary assessment in April 2003, the Council considered this decision and the supporting evidence on the cost-effectiveness of introducing consumption-based pricing (see section 1.4) The Council was satisfied that there is sufficient evidence to support Townsville's decision. The Queensland Government considers that changing commercial pressures within the Townsville–Thuringowa water industry may prompt Townsville to change its water pricing structure, and it reminded Townsville of the need to keep its residential water pricing structure under review.

Local government businesses with more than 5000 connections (excluding the 18 largest)

Queensland reported that nine of the 11 local government businesses with more than 5000 connections use two-part tariffs that conform with CoAG requirements. Mount Isa undertook a cost-effectiveness assessment that found that a two-part tariff would not be cost-effective. Johnstone resolved to not implement a two-part tariff.

Local government businesses with 1000–5000 connections

Of the 39 providers with 1000–5000 water connections, 22 implemented a two-part tariff in accord with CoAG principles and eight resolved that a two-part tariff is not in the public interest. Of the remaining 9 providers:

- Douglas, Roma and Mount Morgan are conducting cost-effectiveness reports on two-part tariffs;
- Atherton and Whitsunday will implement a two-part tariff during 2003-04;
- Broadsound and Sarina resolved to implement two-part tariffs but are yet to do so;
- Murgon operates a hybrid charging arrangement, whereby industrial customers are on a two-part tariff, while other customers remain on an allowance/excess arrangement; and
- Paroo did not complete a cost-effectiveness report on two-part tariffs.

Urban bulk water suppliers

Four urban bulk water suppliers provide services to local government retail and distribution services in Queensland: the Gladstone Area Water Board; SEQWater; NQ Water; and the Mount Isa Water Board. In earlier NCP assessments, the Council questioned whether the water supply contracts in place with the Gladstone Area Water Board and the Mount Isa Water Board at 1 October 2000, when the boards were established as commercialised entities, charge for water on a consumption basis. The Queensland Competition Authority published the final report of its investigation into the Gladstone Area Water Board's pricing practices in September 2002. The Government is yet to announce a response to the report.

At the time of its establishment as a commercialised entity, the Gladstone Area Water Board had a number of 'take or pay' contracts for the 12-month supply of water. The commercialisation charter required that the water board

renegotiate these contracts in accord with the water board's rate-of-return targets. These new contracts, which will be implemented after the Government responds to the Queensland Competition Authority report, will be volumetrically based. The Mount Isa Water Board charges on a two-part tariff basis, with the fixed cost component applying to the water allocation for each customer and the variable cost component applying to the additional water consumed by each customer.

Following a review of its pricing structure, NQ Water resolved to adopt a revised two-part tariff. It advised the Queensland Government that it expected to introduce a two-part tariff by 1 July 2003.

Trade waste charges

Queensland advised that 28 local governments in urban and regional areas have some form of trade waste charging regime. All of the 18 largest local government providers except Hervey Bay and Thuringowa have trade waste charging regimes. Queensland provided no information for Toowoomba. Thuringowa advised the Queensland Government that it has no emitters of trade waste that are considered 'large' under the Government's model trade waste policy. (The largest emitter in the city is a retail supermarket, which emits waste volumes well under Queensland's definition of a large trade waste emitter.) Smaller local governments do not implement trade waste charging if they have no major generators of trade waste.

Submissions

Mr Jeffery Karykowski submitted that a cross-subsidy from landlord to tenant results from the Queensland *Residential Tenancies Act 1994*, which provides that a tenant does not have to pay for water for which a lessor should be reasonably liable. Mr Karykowski cited advice from Brisbane Water indicating that the amount of water for which the lessor should be reasonably liable, while 'subject to conjecture', might be based on average consumption for a property in the water authority's distribution area. (Average consumption for a residential property in the Brisbane Water area, for example, is deemed to be about 275 kilolitres.) He considered that this cross-subsidy compromises the achievement of consumption-based pricing. He argued that tenants should be charged directly for their use of water and wastewater services (as for electricity and gas), noting that this approach would require a legislative change by the Queensland Government.

Mr Griffith Hodges submitted that the Gold Coast City Council's implementation of consumption-based pricing for residential water customers is insufficient. He recognised that the Gold Coast's staging of price reforms from 1997-98 to 2002-03 represents a movement to consumption-based pricing. He noted, however, that the variable consumption component of the price of water services in 2002-03 represented less than 50 per cent of the

total price for the average household (consuming 200 kilolitres annually) and less than 30 per cent of the total price for households using less than 100 kilolitres per year. The price per kilolitre for households using less than 100 kilolitres annually was more than twice that for households that consume more than 350 kilolitres annually. Mr Hodges submitted that a more appropriate pricing arrangement would require a greater proportion of total costs to be derived from the variable or volumetric component.

Mr Hodges commented that State legislation does not mandate or regulate the proportions of the access and volumetric components within a local government's pricing structure. Mr Hodges also considered that the Gold Coast City Council's water rate remission to pensioners is less than would be saved by a low volume user under his proposed pricing model.

Discussion

All but three of the 18 largest local government water and wastewater businesses have introduced consumption-based pricing. Those that have not done so have provided satisfactory evidence to show that consumption-based pricing is not cost-effective.

There has been considerable improvement since the 2001 NCP assessment in the implementation of consumption-based pricing by the next 11 largest local government businesses. There are now 10 businesses that meet the consumption-based pricing obligation, whereas only three did so in 2001. The exception is Johnstone, which has resolved not to implement a two-part tariff apparently without providing robust cost-effective analysis to support its decision. There is also improved application of consumption-based pricing by local government water and wastewater businesses with 1000-5000 connections. It appears that the Queensland Government's Business Management Assistance Program is contributing to the improved uptake of consumption-based pricing.

In the supplementary 2002 NCP assessment on water pricing by the Townsville City Council (see section 1.4), Queensland reported that NQ Water's operating and fixed costs are shared between Townsville City Council and Thuringowa City Council according to each city's share of use. (In any given year, each city is charged an expected share of NQ Water's costs. This charge is then adjusted in the following year when actual consumption is known.) NQ Water resolved to adopt a revised two-part tariff by 1 July 2003, which is likely to better reflect the consumption-based pricing obligation. At the time of this 2003 NCP assessment, however, Queensland had provided no details on the configuration of the revised NQ Water tariff.

Many of the large customers of the Gladstone Area Water Board are charged under contract arrangements based on a projected volume of water required for a 12-month period, which is not strictly in accord with CoAG consumption-based pricing. While there is scope for the Gladstone Area Water Board to renegotiate contracts which would comply with

consumption-based pricing obligations, the Queensland Government advised that all old contracts will continue to be honoured until the Government responds to the Queensland Competition Authority's report and recommendations on the Gladstone Area Water Board Investigation into Pricing. This investigation recommended implementation of a range of pricing and cost recovery reforms.

Some 28 local governments in urban and regional areas have trade waste charging regimes (including 15 of the 18 largest local government providers). These regimes appear to cover all of the State's large waste dischargers. The price regimes will improve the (volumetric and toxicity) pricing signal and should encourage improvements in the handling of trade waste by the large dischargers, including reduced use of the local government waste disposal systems. Information on the tradewaste charging arrangements of local governments is made publicly available in the Local Government Comparative Information Report.

The Council considers that the cross-subsidy matter raised by Mr Karykowski concerning the requirement under the *Residential Tenancies Act 1994* (and the Residential Tenancies Regulation 1995) that a landlord pay for a 'reasonable' amount of water used by a tenant is relevant to Queensland's implementation of consumption-based pricing. The advice from Brisbane Water provided by Mr Karykowski as part of his submission suggests the effect of the requirement is that a tenant may have access to an amount of water (which in the Brisbane Water area could be around 275 kilolitres a year) that is paid for by their landlord. While this arrangement still relates price to the amount of water used, it is likely to reduce the overall pressure to conserve water because the cost of the water used is not borne directly by the person using the water.

Under the Act, landlords can require their tenants to pay for water charges above a 'reasonable' amount. Such an arrangement must be specified in the tenancy agreement, the property must be individually metered and the amount charged to the tenant must not exceed that charged by the water authority for the water supplied. Where metering is available and landlords require their tenants to pay for water use above a 'reasonable amount', the tenant will have some price signal incentive to conserve water (at least above the 'reasonable amount'). There may also be opportunities for landlords and tenants to negotiate a level of rental that accounts for water use, such that the tenant pays a reduced rental in return for using water conservatively.

The Queensland Government noted that the Brisbane City Council applies two-part tariffs and so provides a price incentive to reduce consumption. The Government also argued that, assuming the property is metered, the regulatory framework allows landlords to recover the costs of tenants' water use above what could be generally considered a reasonable amount while ensuring tenants are not unreasonably required to pay for the water needed for the fair upkeep of the tenanted property. The Government considered that the regulatory framework allows for flexibility in negotiating agreements between landlords and tenants while appropriately protecting tenant's interests.

In relation to the Gold Coast City Council matter raised by Mr Hodges, the Queensland Government stated that the payment of a higher per kilolitre use charge by low volume water users is unavoidable where water pricing incorporates an access component and a use-based charge.¹ Any two-part tariff structure will result in a higher per unit charge at lower consumption levels, depending on the extent to which fixed costs are recovered through the access component. The consumption-based pricing approach adopted by the Gold Coast City Council is that pricing, as far as practicable, reflect the cost structure of the business. The Gold Coast City Council expects that its two-part tariff will improve the price signal to water consumers and should lead to a more efficient and sustainable water industry.

The Queensland Government advised that it has not set a fixed proportion for the access and variable components of a two-part tariff in the Local Government Act because of variations in the type and nature of the systems operated by local governments (and hence the costs of those systems). The Queensland Government indicated that it has provided local governments with an array of tools, expertise and information to assist them with setting appropriate pricing regimes. The 18 largest local government water and sewerage businesses (including the Gold Coast City Council) are subject to prices oversight by the Queensland Competition Authority to ensure that the businesses do not use their monopoly status to price inappropriately.

The Queensland Government advised that the Gold Coast City Council disclosed a CSO of \$1 990 894 to various groups (including pensioners) in accord with State legislative requirements.

Assessment

Queensland has substantially complied with its consumption-based water and wastewater pricing obligations. There are, however, various outstanding issues that the Council will expect the Queensland Government to report on for the next assessment of this area of reform in 2005. These include:

- the adoption of consumption-based pricing methods by the few remaining local government water and wastewater businesses (including a robust cost-effectiveness study by Johnstone that supports its decision to not implement two-part tariffs);
- NQ Water's adoption of appropriate consumption-based pricing; and

¹ The Gold Coast City Council's water charging arrangement for residential users comprises an access component of \$173 per year and a volumetric component of \$0.65 per kilolitre of water consumed. The access and volume charges are generally reflective of other south east Queensland local governments.

- pricing by the Gladstone Area Water Board following the Queensland Competition Authority's September 2002 investigation into the Gladstone Area Water Board's pricing practices.

To the extent that the Residential Tenancies Act and Regulation results in landlords paying for water use by tenants at a level substantially above that needed for the fair upkeep of the tenanted property, there is likely to be a disincentive against conserving water. The implication of the Queensland Government's advice on this matter, however, is that the regulatory framework enables landlords and tenants to readily negotiate arrangements such that the cost of tenants' use of water above the level needed for fair upkeep is met by the tenant.

The Gold Coast City Council's approach to water pricing is consistent with CoAG obligations. The Gold Coast City Council has appropriately-calculated two-part tariffs that provide an adequate pricing signal, and ensures that any CSOs are appropriately funded and disclosed.

Community service obligations

Assessment issue: Queensland is to transparently report the size and nature of community service obligations provided by urban water and wastewater service providers.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a)(ii)

The Local Government Act requires the 18 largest local governments with significant water and sewerage business activities to identify and publicly report any CSOs. The remaining 107 local governments are not required under the Act to identify and report CSOs. However, Queensland's NCP financial incentive package provides a financial incentive for all local governments to undertake such an analysis. Queensland reported that for 2001-02:

- 16 of the 18 largest local governments identified and reported CSOs, with the exceptions being Thuringowa and Bundaberg (both of which identified CSOs but did not cost them);
- 10 of the 11 local governments with more than 5000 connections (excluding the 18 largest) identified and reported CSOs; and
- 31 of the 39 local governments with 1000–5000 connections identified and reported CSOs.

Queensland indicated that the Queensland Competition Authority advised that both Thuringowa and Bundaberg were likely to have identified and reported CSOs for 2002-03 in accord with the Local Government Act.

The Queensland Local Government Comparative Information Report is the main vehicle for benchmarking and reporting of water and wastewater business performance. Queensland expanded the scope for future reports to include information on whether pensioner rebates apply to water services, whether CSOs are provided and their purpose and value. The report is available on the Queensland Department of Local Government web site.

Discussion and assessment

Queensland local governments demonstrated substantial compliance with requirements relating to the identification and reporting of CSOs. Local governments' performance in this area improved significantly since the 2002 NCP assessment, and there are now very few local governments with over 1000 connections that are not identifying and reporting CSOs. The Council will look for the local governments that are still to identify and report on CSOs to be doing so when it next assesses this area of reform in 2005.

Cross-subsidies

Assessment issue: Queensland is to, ideally, remove cross-subsidies where they are not consistent with efficient service provision and use or, where they remain, ensure they are transparently reported. In the 2002 NCP assessment, the Council found that Queensland's local government water and wastewater providers (other than the 18 largest) had neither removed nor reported their cross-subsidies. Queensland also had no guidelines for identifying, measuring and reporting cross-subsidies for the water and wastewater services industry.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a)(i); CoAG pricing principles

The Local Government Act requires that the 18 largest local governments with significant water and sewerage business activities identify and publicly report any cross-subsidies that exist between different classes of customer. The remaining 107 local governments are not required under the Act to identify and report cross-subsidies. Queensland's NCP financial incentive package provides a financial incentive for the smaller local governments to undertake such an analysis however. Queensland advised that cross-subsidy reports for 2001-02 were completed by:

- the 18 largest local governments;
- three of the 11 local governments with more than 5000 connections (excluding the 18 largest); and
- seven of the 39 local governments with 1000–5000 connections.

Information on whether local government water and wastewater businesses contain cross-subsidies will be publicly reported in the Queensland Local Government Comparative Information report for 2003-04. This report will be available on the Department of Local Government's web site.

Queensland advised that many smaller local governments expressed concern at the difficulty in calculating the long-run marginal cost of their water supply activities to determine whether cross-subsidies exist in their charging arrangements. This difficulty prevented some local governments from identifying cross-subsidies within their businesses. The Queensland Government, through the Business Management Assistance Program, prepared and released a simplified model for calculating long-run marginal cost within smaller water businesses. The Government is planning on making the model available to local governments in time for them to disclose cross-subsidies in their 2003-04 NCP annual reports. The Queensland Government anticipates that its model will assist a greater number of local governments to investigate and report on cross-subsidisation in their water and wastewater businesses.

Discussion and assessment

The majority of providers of local government water and wastewater services with more than 1000 water connections now charge for services via appropriately determined consumption-based prices. Many larger businesses have also introduced trade waste charges. This reduces the potential for larger scale cross-subsidisation. Progress with identifying and reporting all remaining cross-subsidies has been slow, however, although the Queensland Government's actions to assist reporting of cross-subsidies remaining in 2003-04 should lead to greater disclosure in the future.

While Queensland has not fully complied with CoAG obligations on cross-subsidies for the 2003 NCP assessment, the Council accepts that the Queensland Government is committed to achieving full compliance with this reform obligation. The Council considers that the actions taken by Queensland are likely to see significant disclosure of cross-subsidies remaining in 2003-04 in the Queensland Local Government Comparative Information Report. The Council will look for Queensland to demonstrate that remaining cross-subsidies are fully reported consistent with CoAG obligations when this area of reform is next assessed in 2005.

4.2 Water management: water rights and provisions to the environment

Establishment of water rights systems: progress report

Progress report: Queensland is to report on progress towards converting existing entitlements to new water rights systems, and in implementing mechanisms to support these systems.

Next full assessment: The Council will assess the Government's compliance with CoAG obligations on implementing water rights arrangements in 2004.

Reference: CoAG water reform agreement, clause 4

Queensland's water allocation process is being undertaken through the development of water resource plans for catchments and basins. Under the *Water Act 2000*, water resource plans specify the rules for the allocation of water, water allocation security objectives and environmental flow provisions. The plans, which have effect for 10 years, are implemented through resource operations plans detailing day-to-day operational rules. Infrastructure operators (such as SunWater and local governments) must hold a resource operations licence and comply with the relevant resource operations plan. Overland flows may be managed via water resource plans. Queensland intends to develop water resource plans and resource operations plans for all of its major water resources.

Once a resource operations plan is approved, water licences under the previous system are converted to water allocations. A water allocation is an authority to take water in accordance with a water resource plan and resource operations plan. Water allocations are separate from land title and their ownership, volume and location are clearly specified. A water allocations register records details of all water allocations and the corresponding interests and dealings. Compensation is payable under the *Water Act* if allocations are changed during the 10-year life of a water resource plan in a way that reduces the allocations' market value.

In areas that will not be covered by a water resource plan and resource operations plan, or where a resource operations plan does not provide for the establishment of water allocations, water licences similar to those under the previous *Water Resources Act 1989* continue. Over time, the licences will be amended to describe the water entitlement in volumetric terms (rather than, under the previous arrangements, describing the area that may be irrigated and the works that may be used to take water). Under a water licence, water remains tied to the land title. Water licences are usually found in areas of

limited demand (for example, much of Cape York Peninsula and small coastal streams). On implementation of the water resource plans currently in progress, water licences are expected to account for no more than 20 per cent of water use.

Reform progress

Progress by Queensland in developing water resource plans and resource operations plans, and the timetable for remaining plans, are reported in table 4.2. It completed water resource plans for six river systems and expects a further three to be completed soon. At May 2003, one resource operations plan — for the Burnett Basin — was completed.

Queensland's water allocation register has been established and is operational. Draft resource operations plans include schedules of existing licences that are to be converted to water allocations. After publication of the draft resource operations plan, existing interest holders may give notice of their intention to have their interest recorded on the water allocations register, after the relevant entitlement is converted to a water allocation. To assist financial institutions to identify cases where water licences are attached to land over which they hold securities, Queensland established a process to match its existing water licence database with real property descriptions on the land registry. Searches are undertaken on request.

Table 4.2: Status and timetable for water resource and resource operations plans in Queensland, May 2003

	<i>Release draft water resource plan</i>	<i>Final water resource plan</i>	<i>Release draft resource operations plan</i>	<i>Final resource operations plan</i>
Barron	2001-02	2002-03	2003-04	2003-04
Border Rivers	2002-03	2002-03*	2003-04	2003-04
Boyne	1999-2000	2000-01	2001-02	2002-03*
Burdekin ^a	2003-04	2004-05	2004-05	2005-06
Burnett ^b	1999-2000	2000-01	2002-03	2002-03
		2001-02 (amendment)		
Calliope and Baffle	2003-04	2004-05	2005-06	2005-06
Condamine– Balonne ^c	1999-2000	2003-04	2003-04	2004-05
	2003-04 (revised)			
Cooper	1997-98	1999-2000	–	–
Fitzroy ^d	Before 1999- 2000	1999-2000	2002-03	2003-04
		2003-04 (amendment)		
Georgina/ Diamantina	2002-03	2003-04		

(continued)

Table 4.2 continued

	<i>Release draft water resource plan</i>	<i>Final water resource plan</i>	<i>Release draft resource operations plan</i>	<i>Final resource operations plan</i>
Great Artesian Basin ^e	After 2004-05			
Gulf	2003-04	2004-05	2004-05	2005-06
Logan (including Albert)	2003-04	2004-05	2005-06	2006-07
Mary (including Burrum and Sunshine Coast catchments)	2003-04	2004-05	2006-07	2006-07
Mitchell	2003-04	2004-05	2004-05	2005-06
Moonie	1999-2000 2002-03 (revised)	2002-03*	2003-04	2003-04
Moreton	2007-08	2007-08	2008-09	2008-09
Pioneer ^f	2001-02	2002-03	2003-04	2003-04
Warrego/Paroo/ Bulloo/Nebine	1999-2000 2002-03 (revised)	2002-03*	2003-04	2003-04
Wet Tropics	2007-08	2007-08		
Whitsunday	2004-05	2004-05	2005-06	2005-06

^a The Burdekin water resource plan is to be amended to include the coastal alluvial aquifer in 2006-07, with the resource operations plan to be amended in 2007-08.

^b The Burnett water resource plan is to be amended to include the Bundaberg coastal aquifer in 2005-06. The resource operations plan is to be amended to include the Boyne and Barker–Barambah in 2004-05; 3 Moon, Elliot, Gregory and Isis in 2005-06; and the Bundaberg coastal aquifer in 2008-09.

^c The Condamine–Balonne water resource plan is to be amended to include Toowoomba Basalts and Eastern Downs Sandstones in 2004-05.

^d The Fitzroy water resource plan is to be amended to include overland flow in 2004-05 and the Callide groundwater in 2005-06. The resource operations plan is to be amended to include the Upper Dawson, Comet, overland flow and water release in 2005-06 and the Callide surface water, groundwater and water release in 2006-07.

^e The Great Artesian Basin was not listed on Queensland's agreed implementation program in 2001.

^f The Pioneer water resource plan is to be amended to include groundwater in 2004-05, with the resource operations plan to be amended in 2005-06.

* Not completed at 30 June 2003.

Provision of water to the environment

Assessment issue: Governments are to formally determine allocations or entitlements to water, including appropriate allocations to the environment to enhance/restore the health of river and groundwater systems. In allocating water to the environment, governments are to have regard to the work undertaken by the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) and the Australian and New Zealand Environment and Conservation Council (ANZECC). Environmental requirements, wherever possible, are to be determined on the best scientific information available and have regard to the intertemporal and interspatial water requirements that maintain the health and viability of river systems and groundwater basins. Governments needed to have made substantial progress in implementing arrangements to provide water to the environment by 2001, including allocations in all river systems that are overallocated or deemed to be stressed. Allocations must be substantially completed by 2005 for all river systems and groundwater resources identified in each jurisdiction's agreed implementation program.

At the time of the 2002 NCP assessment, the Queensland Government had not produced a final water resource plan for the Condamine–Balonne Basin, Queensland's only potentially stressed river system. Queensland was also still developing resource operations plans for the Burnett and Fitzroy basins. Because the Government was discussing ways of addressing the issues associated with the Condamine–Balonne Basin with the Commonwealth and New South Wales governments, and had announced a six-month independent scientific review and a commitment to implement the review's recommendations, the Council decided to conduct a supplementary assessment on the Condamine–Balonne.

In the 2002 supplementary assessment, finalised in March 2003, the Council reported that the independent scientific review had been completed and that the Queensland Government was committed to implementing the review's recommendations via a new water resource plan within a reasonable timeframe. For the 2003 NCP assessment, the Council expected Queensland to have produced, or substantially progressed, a new draft water resource plan for the Condamine–Balonne Basin.

Queensland also needed to demonstrate how it will achieve appropriate environmental outcomes via the development of resource operations plans to implement the water resource plans for the Burnett and Fitzroy basins.

Next full assessment: In 2004, the Council will report on progress by Queensland in implementing allocations to the environment consistent with the CoAG requirement that allocations be determined by 2005.

Reference: CoAG water reform agreement, clauses 4(b–f)

The Condamine–Balonne Basin

In the 2001 NCP assessment, the Council found that the Queensland Government's draft water resource plan for the Condamine–Balonne Basin did not adequately address identified environmental problems. Information at the time of the assessment suggested that the Condamine–Balonne Basin may have the characteristics of a stressed river system but that Queensland had no other river systems that were stressed or overallocated.

Although the Queensland Government had not produced a final Condamine–Balonne water resource plan by the 2002 NCP assessment, it was discussing ways of addressing the basin's issues with the Commonwealth and New South Wales governments. The Queensland Government had also announced a six-month independent review of the science underpinning the assessment of the current and future ecological condition of the lower Balonne River

system, and committed to act on the recommendations of the review. Because evidence emerged only in the 2001 NCP assessment that the Condamine–Balonne Basin may be stressed, and given the Queensland Government’s actions (including the proposed scientific review), the Council deferred its consideration of Queensland’s compliance with environmental obligations in relation to the basin to a supplementary assessment.

The Council completed the supplementary assessment in March 2003, reporting the following findings.

- The independent scientific review, chaired by Professor Peter Cullen, ex-Chief Executive of the Cooperative Research Centre for Freshwater Ecology, reported in January 2003 (Independent Scientific Review Panel 2003). The review found that the rivers and wetlands of the lower Balonne system are in a reasonable ecological condition but are expected to deteriorate if the present capacity to extract water from the system is exercised. The review recommended close community consultation to achieve a target of wetting on average every 3.5 years for the Narran Lakes (a wetland of international importance in northern New South Wales) and an appropriate frequency for the two Culgoa national parks. It also recommended further research to refine the environmental flow requirements.
- The Queensland Government had committed to implement in full the recommendations of the review via a new Condamine–Balonne water resource plan.
- Consistent with the review recommendations, the Government intended to develop management targets for the lower Balonne system in consultation with the community over a three-month period.
- Subject to advice from the Condamine–Balonne community reference group, the Government expected to release the new draft Condamine–Balonne water resource plan for public review in mid-2003 and aimed to finalise the new plan by the end of 2003.
- The Government expected to commence preparation of the resource operations plan (needed to implement the water resource plan) in mid-2003, with a view to finalising it during the first half of 2004.

Given the complexity of the work required and the need for further close consultation with the community, the Council considered the timetable proposed by Queensland to be reasonable. The timetable appeared unlikely to compromise the ecological condition of the lower Balonne system, given the review’s finding that the rivers and wetlands of the system are in a reasonable ecological condition. Accordingly, the Council concluded in the 2002 supplementary assessment that the undertakings of the Queensland Government met the State’s remaining water reform obligations for 2002. The Council indicated that it would monitor in future NCP assessments Queensland’s progress against its undertaking to produce a new Condamine–Balonne water resource plan.

Queensland commenced the development of the new water resource plan for the Condamine–Balonne Basin in early 2003, establishing a community reference group as the primary mechanism for involving the lower Balonne community. The community reference group includes Indigenous representatives and pastoralists from the Narran and Culgoa floodplain areas, irrigators and operators from the St George Irrigation Area and representatives of environmental and catchment management bodies. The Queensland Government advised in June 2003 that it expected to release a draft plan for public consultation in August 2003 and finalise the plan by the end of 2003. Queensland will then develop and implement the resource operations plan during the first half of 2004.

Burnett Basin

Queensland's *Water Infrastructure Development (Burnett Basin) Amendment Act 2001* amended a number of environmental objectives in the Burnett Basin water resource plan. The Council examined these changes in the 2002 NCP assessment, finding that they did not alter its 2001 finding that the Burnett Basin plan meets CoAG requirements on environmental flows. The Council considered, however, that the ways in which the allocations are managed and the infrastructure (including new infrastructure) is operated are likely to be a greater determinant of future environmental health. Consequently, the Council decided that it would consider in the 2003 NCP assessment how the Burnett Basin resource operations plan, which will implement the water resource plan, will achieve the general and ecological objectives in the water resource plan. In particular, the Council indicated it would consider the resource operations plan against principle 4 of the ARMCANZ/ANZECC National Principles for the Provision of Water for Ecosystems.²

Queensland released a draft resource operations plan for the Burnett Basin for public comment in December 2002 and finalised the plan in May 2003. The plan converts most existing entitlements to around 1700 water allocations, grants resource operations licences to existing water service providers (such as SunWater), and includes rules (though not for the Burnett Water Infrastructure Project) for infrastructure operation and water trading. The plan reserves allocations of water to be made available via the proposed dam and related infrastructure. Details of the infrastructure (such as dam and weir height, spillway width and outlet works) are, however, not included in the plan in order to provide flexibility for the final infrastructure design and construction.

² Principle 4 requires, for systems where there are existing users of water, that the provision of water for ecosystems go as far as possible to meet the water regime necessary to sustain ecological values while recognising the existing rights of water users.

The resource operations plan will require amendment, once the detailed design of the new infrastructure is known, to incorporate operating rules to allow for the release of the water, as well as monitoring and reporting arrangements for resource operations licence holders and trading rules. The plan allows for this amendment to be made without the usual public consultation process. In supplementary information provided to the Council, however, the Queensland Government advised that it will consult with water users before any amendments are made. Queensland noted that any amendment to the resource operations plan must be consistent with the water resource plan and must, therefore, not compromise the water allocation security and environmental flow objectives specified in the water resource plan.

The resource operations plan is also to be amended to extend its application to include several other water supply schemes and water resources. The Boyne and Barker–Barambah are to be included in 2004-05; 3 Moon, Elliot, Gregory and Isis in 2005-06; and the Bundaberg coastal aquifer in 2008-09. In the interim, water supply schemes in these areas will be managed in accordance with SunWater’s existing interim resource operations licence.

Water sharing rules are included in the resource operations plan. For water supply schemes, the plan specifies the rules to be used by the resource operations licence holder to determine the percentage of a water allocation’s nominal volume that can be extracted during a year (for each water priority group) and restrictions on the movement of water between years. There are also rules for passing low, medium and high flows aimed at meeting environmental flow objectives. Outside the water supply schemes, water allocations are subject to limits on the maximum rate at which water may be extracted and the flow conditions under which it may be taken (through commence-to-pump and cease-to-pump limits). These limits are also aimed at meeting environmental flow objectives.

The plan specifies requirements for water and natural ecosystem monitoring to determine if the plan’s objectives are being achieved. Reporting on the implementation of the resource operations plan, including the results of the monitoring program, will be included in the Minister’s annual report on the water resource plan.

Other water resources

Queensland finalised a water resource plan for the Fitzroy Basin in December 1999 and released a draft resource operations plan for the basin for public comment in December 2002. The resource operations plan, which was not finalised at the time of the 2003 NCP assessment, will set out how the Fitzroy Basin’s water and storages are to be managed to meet the water security and environmental flow objectives in the water resource plan. The draft resource operations plan for the Fitzroy Basin details a two-stage monitoring program. The first stage involves researching the most appropriate indicators for assessing the effectiveness of the management strategies in achieving

ecological outcomes. This stage commenced in 2002 and is to be completed in 2003. The second stage is a long-term monitoring program (to commence in 2004) that will be designed following the initial research.

Under the Water Act, on finalisation of a water resource plan, the Minister is required to make public a report summarising issues raised during the consultation process and how these have been addressed. The first two consultation reports were released following finalisation of the water resource plans for the Barron River and the Pioneer Valley in December 2002. The reports document changes made in the final plans in response to submissions received on the draft plans, and provide information to enable the community to understand the implications of these changes.

Submissions

Condamine–Balonne Basin

Smartrivers, representing the interests of irrigators in the lower Balonne region, raised concerns with the original water resource planning process and the technical advice underpinning the initial draft Condamine–Balonne water resource plan released in June 2000. Following the findings of the independent scientific review, Smartrivers considered that the Condamine–Balonne should no longer be classified as a stressed river, ‘thereby removing any threat to Queensland’s competition payments with respect to this river’ (Smartrivers 2003, p. 1). (Smartrivers is represented on the community reference group; see below for details of the group’s submission.)

The Queensland Conservation Council expressed concern that the Queensland Government, despite completion of the scientific review, had made no public commitment on the timeframe for finalising the water resource plan for the Condamine–Balonne Basin. It considered that the Queensland Government should be penalised for not having finalised the plan and stated:

The scientific review confirmed that the Condamine–Balonne is in trouble if current allocations are realised and that water has to be returned for environmental purposes if the ecological assets identified in the review are to be successfully maintained into the future.
(Queensland Conservation Council 2003, p. 8)

The Lower Balonne Community Reference Group, established by the Government to help develop the water resource plan, advised the Council of its satisfaction with the process for developing the new plan, noting the improvement in the working relationship between the local community and the Department of Natural Resources and Mines. The group confirmed the advice from the Queensland Government that the draft water resource plan is likely to be available for public release by August 2003.

Burnett Basin

The Queensland Conservation Council reiterated concerns it expressed in previous submissions regarding the water resource planning process for the Burnett Basin. It considered that the additional water allocations for the Burnett Water Infrastructure Project will not allow sustainable environmental flows and would be likely to have major impacts on ecological conditions within the river. In addition, the Queensland Conservation Council was concerned that the draft resource operations plan for the Burnett Basin did not include design, operation or management specifications for the Burnett dam. Instead, the draft plan proposed that future amendments would occur to accommodate the proposed infrastructure, without the need for further public consultation.

Burnett Water for All, representing various community and industry groups, submitted that ‘environmental flows, water allocations and property rights have all been eroded by the Paradise Dam proposal’ (BWFA 2003a, p. 6). It commented that the original water resource plan for the Burnett Basin was changed without any community consultation. The change resulted in the mean annual flow at the river mouth being reduced to 72 per cent of the natural flow, or 9 percentage points less than recommended by the original plan. Burnett Water for All considered that water has been taken from environmental flows, supplemented water allocations and allocations for flood water harvesting, undermining the water rights of existing users (with, for example, the reliability of supplemented water allocations in the Upper Burnett being reduced from over 95 per cent to 90 per cent). In addition, the group was concerned that community consultation had been reduced to the bare minimum. It commented that: the draft resource operations plan was released just before Christmas 2002; documents were difficult to obtain; the submission period was the bare minimum; and this was the first local irrigators heard of the proposed substantial cut to flood water harvesting.

The two submissions are discussed further in section 4.7.

Discussion and assessment

Condamine–Balonne Basin

Under the CoAG water reform agreement, by 2001, governments were to have in place allocations to the environment in all river systems that are overallocated or deemed to be stressed. As the Council noted in the 2002 supplementary assessment, the scientific review found that the rivers and wetlands of the lower Balonne system are in a reasonable ecological condition but are expected to deteriorate if the present capacity to extract water from the system is exercised. While the river system is not currently stressed, the review’s findings on the possible level of water extractions with the present infrastructure indicate that the water resource may be overallocated. Because the water allocations in the Condamine–Balonne Basin will not be formalised

under the new Water Act until the resource operations plan is finalised and implemented, it is difficult to determine whether the resource is overallocated.

The timeframe proposed by Queensland for finalising water management arrangements for the Condamine–Balonne system — the water resource plan by the end of 2003 and the resource operations plan in the first half of 2004 — is reasonable. For compliance with CoAG environmental obligations, allocations must be substantially completed by 2005 for all river systems (stressed, overallocated or otherwise) and groundwater resources identified in each jurisdiction’s agreed implementation program.

For the 2003 NCP assessment, the Council expected Queensland to have produced, or substantially progressed, a new draft water resource plan for the Condamine–Balonne Basin. Specifically, the Council was looking for:

- the draft water resource plan’s adoption of outcomes and strategies consistent with the recommendations of the scientific review, to ensure the delivery of adequate environmental flows within a reasonable time period;
- close consultation with the community and transparency in the draft plan’s development, as required under the Water Act; and
- a commitment by Queensland to the further research recommended by the scientific review, particularly to refine the environmental flow requirements.

While Queensland had not produced a draft water resource plan at 30 June 2003, it advised (and the community reference group confirmed) that the process is substantially progressed. Further, the overall timeframe for developing the water resource plan and resource operations plan for the basin does not appear to be compromised. The Council considers that the Queensland Government is satisfactorily addressing its environmental obligations in relation to the Condamine–Balonne Basin.

For the 2004 NCP assessment, the Council will look for Queensland to have finalised the Condamine–Balonne water resource plan (including appropriate environmental outcomes) and the resource operations plan. Queensland will need to have:

- adopted, as recommended by the scientific review, the interim target of wetting on average every 3.5 years for the Narran Lakes and an appropriate wetting frequency for the two Culgoa national parks;
- provided an opportunity for the Murray–Darling Basin Commission Independent Audit Group to comment on the water resource plan, and considered the audit group’s comments in finalising the plan; and

- explained, in line with the requirements of the Water Act, how the final water resource plan addresses issues raised during public consultations, and adopted monitoring arrangements to evaluate the performance of the plan.

Burnett Basin

In relation to the Burnett Basin, the Council examined the modified water resource plan for the Burnett Basin, which accommodates the Burnett Water Infrastructure Project in the 2002 NCP assessment. The Council concluded that the amendments to the water resource plan would result in only minor changes from the outcomes of the original plan and reaffirmed its finding from the 2001 NCP assessment that the plan complies with CoAG commitments.³

The Burnett Basin resource operations plan, finalised in May 2003, reserves allocations of water to be made available via the project but will require amendment (once the detailed design of the infrastructure is known) to allow for the release of the water. Under the plan, this amendment can be made without the usual public consultation process. The Queensland Conservation Council expressed concern at the lack of transparency proposed, while Burnett Water for All was critical of the consultation process on the draft resource operations plan.

In response to the submissions, Queensland restated its view that there has been extensive public consultation on water allocation and environmental issues. Before any amendments are made to the final resource operations plan to accommodate the detailed design of the new infrastructure, Queensland advised that it will consult further, though the consultation is to be limited to water users. The Council considers that, given the significance of the infrastructure, a wider consultation process would be desirable to reassure the community of the importance of transparency to Queensland's water resource planning process.

As the Queensland Government noted, however, the resource operations plan specifies that the amendments to accommodate the new infrastructure cannot be made until it is demonstrated that the supply of water would not have an impact on the water allocation security and environmental flow objectives in the water resource plan. Given this safeguard, the Council considers that the resource operations plan, once amended, should meet CoAG environmental flow requirements.

³ In response to the issues raised by Burnett Water for All regarding the security and reliability of water rights, Queensland advised that the resource operations plan provides for an independent panel to consider adjustments to water allocations in cases where historic use exceeds the nominal volume of the water allocation.

Other water resources

Queensland is yet to finalise the resource operations plan for the Fitzroy Basin, so the Council will consider this plan and any other completed plans against the relevant national principles in the 2004 NCP assessment.

The CoAG agreement requires that, by 2005, allocations (and trading) must be substantially completed for all river systems and groundwater resources identified in governments' agreed implementation programs. Under Queensland's latest timetable (as at May 2003), some of the plans on its agreed implementation program are not scheduled to be completed until after 2005, including the water resource plan for the Moreton Basin (2007-08) and resource operations plans for the Logan (2006-07), Mary (2006-07) and Moreton (2008-09) basins. In addition, Queensland is proposing amendments to water resource and resource operations plans after June 2005 for the Burnett, Burdekin and Fitzroy basins to expand the plans' coverage of water resources in these basins.

In the 2004 NCP assessment, the Council will seek a report from Queensland on the significance of the water sources for which water resource and resource operations plans will remain to be completed after 2005 (including the expected extent of demand for water trading in these areas). This information is necessary for the Council to obtain a better understanding of the implications of Queensland's current water allocations program for the State's compliance with CoAG obligations.

4.3 Intrastate trading

Assessment issue: Trading arrangements in water allocations or entitlements are to be instituted to maximise water's contribution to national income and welfare, within the social, physical and ecological constraints of catchments. Any restrictions on trading need to be shown to be in the public interest. According to the CoAG timetable for assessment of reform progress by the Council, arrangements to enable intrastate trade are to be assessed in 2003.

In previous NCP assessments, the Council found that Queensland had made significant progress towards developing a framework for efficient water trading but substantial work remained on implementation. Arrangements to enable trading are to be implemented through the resource operations plans for each water catchment. At the time of the 2002 NCP assessment, however, Queensland was still to finalise its first resource operations plan. As a prelude to developing the trading provisions in the resource operations plans, Queensland had implemented interim trading arrangements through a water trading trial in the Mareeba Dimbulah Water Supply Scheme.

Next full assessment: The Council will assess arrangements for water trading in 2004.

Reference: CoAG water reform agreement, clause 5

Water trading in Queensland is still in the early stages of development. Under the Water Act, arrangements for intrastate trading are to be implemented through the resource operations plans for each water catchment. As a prelude to developing the trading provisions in the resource operations plans, Queensland has implemented interim trading arrangements through a water trading trial in the Mareeba Dimbulah Water Supply Scheme. In areas that will not be covered by a water resource plan and resource operations plan, while water licences remain tied to the land title, the water available to be taken under the licence may be temporarily traded.⁴

Water trading under resource operations plans

Under the Water Act, water allocations are separated from land title and trading is possible in areas where a water resource plan and resource operations plan have been finalised. Three types of water trading are permitted:

- permanent transfers of water allocations;
- leases of water allocations (with no limit on the duration); and
- seasonal assignments to another person of (part or all of) the water available to be taken under water allocations and water licences for a water year (with no restriction on the number of consecutive periods in which water can be traded).

The underlying principle for trading rules in the resource operations plans is that transfers must not compromise achievement of the key environmental flow and water allocation security objectives established in the relevant water resource plan. In this regard, irrigators are required to prepare land and water management plans before water purchased via a permanent trade or lease can be used. (This requirement does not apply for seasonal assignments.)

Queensland's water allocations register records details of all of the allocations and the corresponding interests and dealings. Parties with a registered interest must be notified of proposed trades, with their consent required before a change can be registered.

⁴ These arrangements also apply in areas not covered by the trading trial until a resource operations plan is completed.

As reported in section 4.2, Queensland has finalised one resource operations plan since the 2002 NCP assessment. This is the plan for the Burnett Basin, which was approved on 29 May 2003. The plan specifies the rules under which trading can occur in parts of the Burnett Basin (box 4.1), but will require amendment to include trading rules for water from the Burnett Water Infrastructure Project (as well as the Boyne and Barker–Barambah; 3 Moon, Elliot, Gregory and Isis; and the Bundaberg coastal aquifer). Queensland has a further five resource operations plans in preparation, including two draft plans that have been released for public consultation.

Box 4.1: Process and rules for transferring water allocations in the Burnett Basin, Queensland

General process

The resource operations plan includes rules for changing and transferring water allocations.

A change to a water allocation involves a change to the nature of the allocation rather than a transfer of ownership. The most common forms of change are relocation (that is, a change to the location at which the water allocation is taken), amalgamation and subdivision of water allocations. To change a water allocation, the holder must apply to the chief executive of the Department of Natural Resources and Mines for a change certificate. Once issued, the certificate must be lodged with the registrar of water allocations to record the change on the water allocation register. The registrar will not register the change until a supply contract has been entered into between the water allocation holder and the resource operations licence holder (for example, SunWater) for supply of the changed water allocation.

The trade of a water allocation involves a transfer of the ownership of the allocation and may or may not involve any change to the allocation itself. A transfer occurs when the registrar registers the new ownership. To sell a water allocation to, for example, a downstream buyer, the seller may need to apply to change the location of the water allocation to reflect the new downstream location. (Sales within the same zone do not require a location change.) A change certificate and transfer document, to transfer the allocation to the new owner, must then be lodged with the registrar to record the change and transfer.

Water allocation change rules

The water allocation change rules included in the resource operations plan describe changes that are permitted and changes that are prohibited.

Permitted changes include:

- changes to the location of the water allocation between specified zones (subject to maintaining the distribution of medium and high priority water allocations in each zone within a specified range);^a
- a change to the purpose of the allocation from 'agriculture' to 'any' and vice versa;^b and
- the amalgamation and subdivision of water allocations.

Queensland has pre-tested the permitted changes. As a result, the impacts of the changes on other allocation holders and the environment are known to be acceptable. If a water allocation holder applies for a permitted change, the chief executive must approve the application and issue a change certificate.

Prohibited changes include changes: between locations that are not specified as permitted under the plan; to a purpose that is not 'any' or 'agriculture'; to a water allocation priority group that is not 'medium' or 'high'; and that would require an amendment to the resource operations plan.

If a water allocation holder's proposed change is not expressly permitted or prohibited, the holder may apply to change the allocation under section 130 of the Water Act. The department publishes a notice of the application in local newspapers inviting public submissions. The chief executive determines whether the application should be approved having regard to its potential impact, including on other allocation holders and the environment. Refusal of the application may be appealed to the Land Court.

^a Only medium and high priority water allocations have been issued in the Burnett Basin.

^b The purposes for which water may be taken under a water allocation in the Burnett Basin are specified as 'agriculture', 'any' or 'distribution loss'. 'Any' is defined to include all uses of water, including agriculture. 'Distribution loss' covers losses associated with the delivery of water through SunWater's offstream distribution system.

Source: NRM 2003a.

The Mareeba Dimbulah trading trial

A trial of permanent water trading commenced in the Mareeba Dimbulah scheme in 1999. Following the introduction of the new framework for water trading in the Water Act, the trial continued under interim trading arrangements established by a Regulation under the Act. The Regulation effectively continues provisions that existed under the Water Resources Act.

The trial involves the trading of interim water allocations. The main differences between interim water allocations and the water allocations to be traded under resource operations plans are summarised in table 4.3. The interim permanent trading arrangements applying in the Mareeba Dimbulah scheme are summarised in box 4.2. These arrangements will continue until the resource operations plan for the Barron Basin is completed (currently expected to be early 2004).

Subject to the outcome of an evaluation of the Mareeba Dimbulah trading trial, Queensland was considering extending the trial to a number of other areas.

Table 4.3: Features of water allocations and interim water allocations in Queensland

<i>Interim water allocations</i>	<i>Water allocations</i>
Must be re-attached to land	Separated from land title under the Water Act
Terms and conditions same as licences (set periods; may be cancelled, varied or amended at any time)	Granted for a period of 10 years
Administrative data base and licensing system	Water allocations register

Box 4.2: Interim trading arrangements in Queensland established by Regulation under the Water Act

- All or part of the water may be transferred to other land within or outside Queensland provided the water is managed under the interim resource operations licence in the relevant area. (Transfers outside Queensland are not relevant to the Mareeba Dimbulah scheme in north-east Queensland.)
- Water transferred under the Regulation must be used for primary production (or, since 2002, for stock and domestic purposes).
- An application for a transfer must be made to the chief executive of the Department of Natural Resources and Mines by the buyer and seller, and be accompanied by the relevant fee.
- Third parties with a financial or other interest in the land held by the proposed seller must be notified of the proposed transfers. Transfers cannot be approved without their written consent.
- The buyer is required to have a supply contract with the interim resource operations licence holder.
- In making a decision on a transfer application, the chief executive must have regard to the sustainability of the proposed transfer, the purpose for which the water is to be used and any other relevant matters.
- The chief executive may set conditions on the transfer, including that the allocation be adjusted to avoid an adverse impact on the sustainability of land and water resources.

Source: Water Regulation 2002

Trading to date

Before the commencement of the Water Act, there was limited scope for water trading in Queensland. Trade was effectively limited to temporary trades mostly in regulated systems and, since 1999, to the pilot for permanent trades in the Mareeba Dimbulah scheme. There has also been some temporary trade of groundwater in areas of intensive competition.

In 2001-02, temporary transfers (seasonal assignments) in water supply schemes managed by SunWater amounted to around 120 000 megalitres. This was a substantial increase on the previous year. Almost one-third of the trades were in the Bundaberg scheme, though the largest quantities of water traded (in total) were in the Burdekin Haughton scheme and the Nogoa McKenzie scheme. In the previous 10 years, the volume of temporary transfers throughout the State ranged from 12 000 to 69 000 megalitres per year. In 1999-2000, temporary transfers accounted for around 2 to 3 per cent of water use in the Burdekin Haughton and Mary River regions, 5 per cent in the Bundaberg region and over 10 per cent in the Dawson, Emerald and St George regions.

In the Mareeba Dimbulah scheme, since commencement of the trading trial in 1999, there have been around 60 permanent transfers, amounting to almost 1900 megalitres (table 4.4). Queensland advised that, since completion of a review of the trial in early 2002 (see next section), the volume of water permanently traded has increased by over 60 per cent and the number of

trades by over 90 per cent. (Some data on permanent trades in other schemes following extension of the trading trial are reported in the following section.)

Temporary trades in the Mareeba Dimbulah scheme have also grown: from 1660 megalitres in 1999-2000 (2.1 per cent of total water use) to over 2900 megalitres in 2000-01 (3.9 per cent of water use) and to over 10 000 megalitres in 2001-02.

Table 4.4: Permanent transfers in the Mareeba Dimbulah scheme 1999-2000 to 2002-03

<i>Water year</i>	<i>Applications (no.)</i>	<i>Transfers (ML)</i>
1999-2000	4	164
2000-01	9	275
2001-02	25	912
2002-03 (to 20 February)	25	521
Total	63	1872

In the Mareeba Dimbulah scheme, recent prices for permanent trades have been in the order of A\$200 to A\$300 per megalitre. Prices for seasonal water assignments have been around A\$11 to A\$24 per megalitre.

Changes in the regulatory environment since 2001

As noted above, Queensland finalised its first resource operations plan, for the Burnett Basin, in May 2003. Permanent trading is therefore now permitted in parts of the Burnett Basin in line with the rules specified in the plan.

The Department of Natural Resources and Mines completed an evaluation of the Mareeba Dimbulah trading trial in early 2002. The evaluation was undertaken under the guidance of a steering committee comprising representatives of the Department of Primary Industries, Queensland Farmers' Federation, SunWater, Queensland Conservation Council and WWF Australia. Over the period of the trial (from 1999 to March 2002), less than 1 per cent of total allocations in the area were permanently traded, though trade was growing. The evaluation attributed the low level of trade mainly to the low level of water usage relative to total allocations (averaging around 50 per cent). In addition, seasonal water assignments were found to have some advantages over permanent trades. In particular, seasonal water assignments do not require preparation of a land and water management plan, do not attract stamp duty and can be claimed as an income tax deduction.

The evaluation made a range of recommendations on market design, administration and extension of the trial including that:

- the fees payable to the department should be amended to a sliding scale to reflect the economies in processing two or more applications for permanent trade together for the same buyer;
- the level and reasons for the exit fees charged by SunWater (when the trade involves shifting water from a channel to a river), in order to recover fixed infrastructure costs, should be discussed with customer councils;
- the requirement for public advertising of a proposed transfer should be removed to streamline the approval process (given that no submissions have been received in response to the advertisements and that there is a separate requirement for the consent of third party interests to be obtained before a transfer can be approved);
- transfers should be permitted between primary producers and stock and domestic users (so as not to disadvantage landholders outside the town water supply scheme);
- a separate evaluation of land and water management plans should be conducted to ensure the requirement for preparation of a plan (before traded water can be used) is not an impediment to trade;
- the trial trading program should be continued in the Mareeba Dimbulah area; and
- several factors should be taken into account when assessing whether to extend the trial to other areas:
 - whether there is strong demand for trading (as indicated by the level of usage relative to total allocations);
 - the expected timing for finalisation of the resource operations plan for the area (as the trial, to some extent, results in a duplication of market establishment costs); and
 - because of the need for careful examination and hydrological modelling of impacts on environmental flows and water allocation security, extension of the trial should be restricted to channel systems operated by SunWater.

In response to the evaluation, Queensland:

- amended the Water Regulation to:
 - remove the requirement for advertising a proposed transfer;
 - permit transfers between primary producers and stock and domestic users; and
 - adopt a sliding scale of fees for multiple applications;

- evaluated the process for preparing land and water management plans, concluding that it is not an impediment to trade; and
- streamlined the administrative process for trades.

Queensland has continued the trial in the Mareeba Dimbulah scheme and extended it to a small proportion of the water allocated in the Nogoia McKenzie scheme and to the lower parts of the Mary River scheme (including parts of Tinanan Creek). Since the extension of the trial, there have been 14 applications for permanent transfers in the Nogoia McKenzie catchment, accounting for over 1300 megalitres (in the period from 2001-02 to February 2003). In the lower Mary catchment, 2 megalitres has been permanently transferred for stock and domestic use.

Queensland advised that finalisation of the resource operations plans is the preferred approach to introducing permanent trade in other areas. While Queensland currently has no plans to extend the trial to other areas, it would consider extending the trial further if there is community demand and if the environmental impacts are sufficiently understood and can be managed.

During 2003, Queensland amended the Water Act and the *Valuation of Land Act 1944* to enable additional information on sales of water allocations (such as the price paid) to be collected.

Discussion

Under the CoAG water reforms, the objective of water trading is to ensure water is used to maximise its contribution to national income and welfare, subject to the social, physical and ecological constraints of catchments.

Queensland is still in the early stages of implementing arrangements for permanent water trading and long-term leases of water allocations. Trade has effectively been limited to temporary trades, mostly in regulated systems, and to permanent trades under the trading trial in the Mareeba Dimbulah, lower Mary River and a small proportion of the Nogoia McKenzie schemes. There is, however, no restriction on the number of consecutive periods in which water can be temporarily traded. Following completion of the resource operations plan, permanent trading has also been possible in parts of the Burnett Basin since May 2003. Over the next twelve months, Queensland expects to finalise a further seven resource operations plans (Fitzroy, Border Rivers, Moonie, Warrego, Barron, Pioneer and Condamine–Balonne) (see section 4.2).

In the 2001 NCP assessment, the Council was satisfied that water rights will be sufficiently well specified to facilitate trading once the resource operations plans are in place. Water allocations are being progressively separated from land title as the plans are completed. There is no requirement to own land or to have the ability to use the water in order to hold a water allocation. Allocations are recorded on a water allocations register, which provides security of title and includes details of third party interests. The consent of

registered interests is required before a change can be registered. Compensation is payable if allocations are changed in a way that reduces their value during the 10-year life of a water resource plan.

The arrangements include measures to ensure permanent water trades do not adversely affect the environment or other water users. Queensland previously advised that the underlying principle for trading rules in the resource operations plans is that transfers must not compromise achievement of the key environmental flow and water allocation security objectives established in the relevant water resource plan. Approval of a permanent trade depends on an assessment of the potential impacts. In addition, irrigators are required to prepare land and water management plans before water purchased via a permanent trade or lease can be used.

The water allocation change rules included in the one resource operations plan completed to date, for the Burnett Basin, include a range of constraints on trade. The plan specifies changes that are permitted and changes that are prohibited. The permitted changes (between specified locations) have been pre-tested and are known to have acceptable impacts on other allocation holders and the environment. Prohibited changes include changes between locations that are not specified as permitted under the plan or that would require an amendment to the resource operations plan.⁵ Changes that are not expressly permitted or prohibited require approval. The approval depends on an assessment of the potential impact of a trade, including on other allocation holders and the environment. Refusal of the application may be appealed to the Land Court.

Queensland advised that the trading restrictions in resource operations plans typically relate to the physical constraints of the supply system and the flows necessary to ensure achievement of environmental and water allocation security objectives. Based on the Council's initial consideration of the Burnett resource operations plan, the trading rules appear to reflect environmental and physical constraints.

The interim arrangements for permanent trades under the trading trial in the Mareeba Dimbulah, lower Mary River and Nogoia McKenzie schemes are more restrictive. In particular, an interim water allocation must be re-attached to land and water transferred must be used for primary production or stock and domestic purposes. The amendments introduced following the evaluation of the trial have, however, streamlined the administrative process (for example, by removing the requirement to advertise a proposed transfer). The interim trading arrangements in these areas apply only until the relevant resource operations plan is finalised. The schemes to which the

⁵ While transfers that involve changes to a water use purpose that is not 'any' or 'agriculture', or to a water allocation priority group that is not 'medium' or 'high', are also prohibited, these prohibitions are unlikely to be significant. 'Any' is defined to include all uses of water, including agriculture, and only medium and high priority water allocations have been issued in the Burnett Basin.

trading trial applies will be covered by the resource operations plans for the Fitzroy (Nogoa McKenzie, expected completion late 2003), Barron (Mareeba Dimbulah, early 2004) and Mary (lower Mary River, 2006) basins.

In areas that will not be covered by a water resource plan and resource operations plan, water will remain tied to the land title and trading will continue to be restricted to temporary transfers. Queensland previously indicated that these arrangements will only apply in areas of limited demand and that, in future, regulations may provide for transfers of water licences to other land holdings. Once the water resource plans currently in progress are implemented, these 'old style' water licences are expected to account for no more than 20 per cent of water use.

The development of water trading mechanisms and the availability of market information in Queensland reflect the infancy of permanent trading and its current restriction to only a few schemes. Trading is, however, possible through private trades, brokers and a private web-based water exchange. Information on prices, quantities, locations and how to effect a trade has been limited but is improving. The Department of Natural Resources and Mines and SunWater collect information on trading. During 2003, Queensland amended the Water Act and the Valuation of Land Act to enable additional information on water sales (such as the price paid) to be collected. This information is to be made publicly available. Publication of the resource operations plan for the Burnett Basin has improved the availability of information on water allocations and the process and rules for trading in parts of the Burnett region. Market mechanisms and the availability of information are expected to improve further as additional resource operation plans come into effect and the market for permanent trade becomes more widespread.

Assessment

While it is in the early stages of implementing arrangements for permanent water trading, the Council is satisfied that Queensland has made sufficient progress against its CoAG obligations on water trading for the 2003 NCP assessment.

Queensland is yet to finalise its resource operations plans. The one finalised plan, for the Burnett Basin, will require future amendments to incorporate significant water resources within the Burnett region. Final resource operations plans are necessary to enable permanent trading (outside areas covered by the trading trial) and to define the water trading rules. Consistent with Queensland's stated intention, the trading rules in the Burnett Basin resource operations plan appear to reflect environmental and physical constraints. The Council will look for trading rules in subsequent plans also to facilitate trading where it is socially, physically and environmentally sustainable.

In line with CoAG requirements, by 2005 allocation and trading must be substantially completed for all river systems and groundwater resources identified in governments' agreed implementation plans. As discussed in section 4.2, Queensland's revised timetable for developing its resource operations plans indicates that some plans on its agreed implementation program are now not scheduled to be completed until after 2005, including plans for the Logan (2006-07), Mary (2006-07) and Moreton (2008-09) basins. In addition, amendments after June 2005 are proposed for the Burnett, Burdekin and Fitzroy plans to expand the plans' coverage of water resources in these basins. As indicated in section 4.2, the Council will seek to understand the implications of the current timetable for Queensland's compliance with CoAG obligations in the 2004 NCP assessment.

Several provisions in Queensland's interim arrangements for permanent trades under the trading trial in the Mareeba Dimbulah, lower Mary River and Nogoa McKenzie schemes are inconsistent with the CoAG water trading obligations. In particular, an interim water allocation must be re-attached to land and the water transferred must be used for primary production or stock and domestic purposes. These are interim arrangements, however, pending finalisation of the relevant resource operations plans. Such conditions would require a robust supporting rationale if they are retained in the resource operations plans.

Outside areas that will be covered by a water resource plan and resource operations plan, water will remain tied to the land title and trading will continue to be restricted to temporary transfers. The Council understands these arrangements are to apply only in areas of limited demand, outside the river and groundwater resources identified in Queensland's agreed implementation program, with affected areas expected to account for no more than 20 per cent of the State's water use. On this basis, the arrangements would not appear to be an issue for compliance with CoAG obligations. The Council considers, however, that it would be preferable if Queensland did proceed with a regulation to at least enable transfers of water licences to other land holdings where there is demand for this to occur.

The Council will revisit Queensland's intrastate trading arrangements in the 2004 NCP assessment when it considers interstate trade. In line with CoAG obligations and the reform timeframe, the Council will focus on the extent to which Queensland's trading arrangements enable water to be used to maximise its contribution to national income and welfare, subject to the social, physical and ecological constraints of catchments. For the 2004 NCP assessment, the Council will expect Queensland to:

- report on the trading arrangements in subsequently completed resource operations plans;
- report on the significance of the water sources for which resource operations plans will remain to be completed after 2005, including the expected extent of demand for water trading in these areas;

- confirm that the demand for trading in the areas not intended to be covered by a water resource plan and resource operations plan is low and commit to considering the implementation of water management (including trading) arrangements if demand increases;
- report on the timeliness of approval processes for applications to trade (in the Burnett Basin as well as in the schemes covered by the trading trial); and
- outline developments in water trading mechanisms and the availability of market information.

4.4 Institutional reform

Structural separation: transparency of pricing matters

Assessment issue: As far as possible, the roles of water resource management, standard setting and regulatory enforcement and service provision are to be separated institutionally by 1998. In the 2002 NCP assessment, the Council noted that the Queensland Government published information on local government pricing, CSOs and cross-subsidies. The Council advised that it would consider whether the information available on local government pricing and related matters provides sufficient transparency and that it would report on Queensland's progress with drinking water quality standards.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 6(c) and (d); CoAG pricing principles

Since the 2002 NCP assessment, the Queensland Government has identified areas of weakness in the Queensland Local Government Comparative Information report, and has improved the format in readiness for future reporting. Queensland's 2001-02 report now provides sufficient detail on charging arrangements, CSOs, cross-subsidies and trade waste charges. The Government tabled the 2001-02 report on 9 August 2002. The report is available on the Department of Local Government's web site. The Council has reported on Queensland's progress with drinking water quality standards in section 4.5.

Devolution of irrigation scheme management

Assessment issue: Constituents are to be given a greater degree of responsibility in the management of irrigation areas, for example, through devolution of operational responsibility to local bodies, subject to appropriate regulatory frameworks being established.

In irrigation schemes managed by SunWater, the establishment of customer councils is intended to give irrigators the opportunity to provide input into SunWater's decision-making process. In the 2001 NCP assessment, the Council indicated that it would monitor the operations of the customer councils to ensure SunWater is using them as an effective mechanism for irrigator input into decision making.

Queensland needs to demonstrate that customer councils are providing an effective mechanism for irrigator input into decision making in irrigation schemes.

Next full assessment: The Council will assess institutional reform in 2005 as part of a full assessment across the entire package of water reforms.

Reference: CoAG water reform agreement, clause 6(g)

In irrigation schemes managed by SunWater, the establishment of customer councils is intended to give irrigators the opportunity to provide input into SunWater's decision-making process. In the 2001 NCP assessment, the Council indicated that it would monitor the operations of the customer councils to ensure SunWater is using them as an effective mechanism for irrigator input into decision making.

Reform progress

During 2002, SunWater established a new customer council in the Mareeba Dimbulah Water Supply Scheme, bringing the total to 12 customer councils. Of the 27 water supply schemes operated by SunWater, the customer councils cover 20 schemes. Irrigators in two schemes (the Burdekin–Haughton and Proserpine River) have declined to form customer councils until pricing disputes with the Government are resolved. Pricing in these schemes is being investigated by the Queensland Competition Authority. In the interim, Queensland indicated that the irrigators have been working closely with SunWater, through irrigator committees. In the other five schemes not covered by customer councils, Queensland considers that individual customer liaison is preferable, as customer numbers are small.

Queensland advised that the customer councils continue to function as independent organisations. The councils control the content of meetings and their own budget, which is funded by SunWater based on requests from the councils.

Queensland reported that the following activities were undertaken with the customer councils during 2002.

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- Setting of service targets. Targets for service levels in 12 schemes were finalised by the end of May 2003, with most of the remainder to be finalised by the end of June 2003. Customer councils provided significant input into determining which aspects of service would be measured and the appropriate levels of service. SunWater expected to commence measuring and reporting on performance to customer councils from July 2003.
 - Scheme management arrangements. SunWater worked with customer councils to improve the arrangements for scheme management (such as water ordering, rain shutdowns and sharing of system capacity for delivery). The agreed operating rules for most schemes were expected to be finalised by the end of June 2003; the rules for 12 schemes were completed and distributed to customers by the end of May 2003.
 - Drought management strategies. In schemes experiencing drought conditions, SunWater and customer councils worked closely to develop strategies to maximise opportunities from the limited supplies available.
 - Review of standard supply contracts. The review was finalised following a second round of consultation with customer councils. This resulted in further improvements in the standard supply contract.
 - Scheme operational issues. Customer councils participated in decisions on day-to-day scheme operations (such as the timing of shutdowns for maintenance or weed control). SunWater also worked closely with councils in developing proposals and submissions relating to future water management, as part of the development of resource operations plans.
 - Customer charter. Customer councils were involved in the development of SunWater's customer service charter, which outlines the principles applying to the relationship between SunWater and its customers.
 - Transparency of financial information. The previous level of provision of financial information to customer councils was maintained. Councils were provided with financial information, including on:
 - total costs as a percentage of the efficient cost targets;
 - total revenue as a percentage of the price path targets;
 - the benchmark proportion of costs between cost categories; and
 - actual renewals expenditure compared to the renewal annuity revenue collected.
 - Meetings between council chairs and the board. The chairs of customer councils met throughout the year with the SunWater board to discuss significant issues including:
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- water pricing, including tariff structures and the roles of SunWater and other agencies;
 - the coordination of submissions to the department on draft water resource plans; and
 - the outcomes of research on customer satisfaction.
- Dedicated facilitator. SunWater appointed a facilitator to operate at arms length from its water supply business to assist customer councils in resolving issues with SunWater. While initially established on a temporary basis, the role has been made permanent. The facilitator reports directly to SunWater’s chief executive officer and board on issues raised by the councils.

Submissions

The Pioneer Valley Water Board and Eton Irrigators raised concerns regarding the effectiveness of the Mackay Customer Council. The two organisations, which are irrigator representatives on the customer council, expressed dissatisfaction with the process used to establish price paths for irrigation supply in SunWater schemes, particularly the ‘token consultation’ with irrigators. They were particularly concerned that the costs on which prices were based have ‘no sound justification’. Pioneer Valley Water Board and Eton Irrigators stated:

... the customer council has been established by SunWater solely to meet the legislative requirements of the Water Act 2000 with no real intent for it to have a role in the management of the irrigation areas. The major issue for customer council irrigator representatives is the denial of access to actual cost information for operation of the schemes and that the council cannot be effective until this information is made available. (Pioneer Valley Water Board and Eton Irrigators 2003, p. 2)

Smartrivers, which represents irrigators in the lower Balonne region, considered that customer input into SunWater’s decision-making process through the customer councils ‘is not happening in a balanced manner’. Smartrivers commented that:

Decisions made by SunWater have the potential to affect all water users and it is paramount that we get the chance to have a say in decisions made regarding the river, and that these decisions be modelled before any form of implementation takes place. ... Current customer council meetings are closed to observers and as such are not seen to be fair, open and transparent.

We are also concerned at the accuracy of the minutes that are taken at the customer council meetings. (Smartrivers 2003, p. 2)

Discussion

To meet Queensland's water reform commitments, customer councils need to have effective input into decision-making processes. The water reform framework envisages more than consultation; it requires the councils to have input into decisions on the management of irrigation schemes.

The information provided by Queensland indicates that the customer councils have contributed significantly to decisions on several important aspects of scheme management during 2002, including:

- the determination of target service levels, which are fundamental to ensuring services meet customer needs;
- the development of orderly and efficient arrangements for day-to-day scheme management; and
- the development of drought strategies.

In addition, SunWater appears to have provided increased opportunities for customer councils to make their views known to its board and to have issues resolved at the highest level of the organisation (in particular, through the appointment of the dedicated facilitator).

In response to the concerns raised by Pioneer Valley Water Board and Eton Irrigators, Queensland advised the following.

- Customer councils are not provided with details of the operational costs for scheme infrastructure because SunWater considers the information to be commercial-in-confidence. SunWater does, however, provide shareholders and customers with an annual summary of scheme operations outlining total revenue and costs on a customer percentage basis.
- Consultation has been an ongoing process in the development and implementation of rural water price paths for SunWater schemes throughout the State. Irrigator concerns have been documented and published on the Department of Natural Resources and Mines' web site and will contribute to the next phase of policy development.
 - For the preparation of the 2000 price paths, the consultation included full briefings to scheme local management committees over the previous 18 months, special presentations to 40 local management committee members in Brisbane and briefings to peak bodies.
 - As a separate process, consultation was also undertaken with the Pioneer Valley Water Board in the development of the 2002 price path. Irrigators were provided with forecasts of efficient benchmarked costs and additional information on these costs was provided to the Pioneer Valley Water Board. Concurrently, the Queensland Government undertook a financial viability study to establish that the board would not be adversely affected by the new charges.

- In response to irrigators' concerns in 2001 (particularly in the Mackay region), the Queensland Premier established a task force. The taskforce, in consultation with irrigators, identified improvements to the process for developing future pricing arrangements, including a pre-policy engagement process involving information sessions with irrigators. During 2002-03, representatives from the Department of Natural Resources and Mines and Queensland Treasury visited irrigator groups around the State as part of the pre-policy engagement phase, to improve understanding of the basis for current and future rural water pricing consistent with COAG requirements. For Eton and Mackay irrigators, four meetings were held, with approximately 200 irrigators in attendance.
- Customer councils have been directly involved in developing rules for the day-to-day management of schemes (for example, for water ordering, rain shutdowns and sharing of system capacity for delivery). Full scheme management by customer councils, however, is not viable. SunWater, and not the customer council, is responsible for the commercial management, assets and liabilities of the scheme.

In relation to Smartrivers' submission, Queensland advised that customer councils are independent organisations that control their own membership, business agenda and processes. As customer councils are established to enable SunWater and its customers to discuss the management of the provision of supplemented water (that is, water within a water supply scheme), Queensland pointed out that the matters discussed would not be relevant to the lower Balonne floodplain harvesters. Nevertheless, Queensland considered that it may be useful for forums to be developed for discussions between Smartrivers and the customer council and SunWater. It suggested that Smartrivers contact SunWater and/or the customer council if it wanted to pursue this option.

Assessment

The Council is satisfied that, for the most part, SunWater is using the customer councils as an effective mechanism for irrigator input into its decision-making process. It appears to the Council that, where problems have arisen, Queensland has adopted a flexible approach to improving the level of engagement with irrigators (for example, on pricing) and that Queensland is willing to make further improvements as the need arises.

The Council therefore considers that Queensland is meeting CoAG obligations on local involvement in the management of irrigation schemes. It will consider further progress by Queensland in the 2005 NCP assessment.

Integrated catchment management

Assessment issue: Queensland is to:

- develop administrative arrangements and decision-making processes to ensure an integrated approach to natural resource management;
- adopt an integrated catchment management approach to water resource management and set in place arrangements to consult with the representatives of local government and the wider community in individual catchments; and
- support the consideration of establishing land care practices that protect areas of rivers that have a high environmental value or are sensitive for other reasons.

In the 2001 NCP assessment, the Council was satisfied that Queensland was meeting its 2001 obligations on integrated catchment management, but stated that it would monitor in forthcoming assessments Queensland's application of water use plans.

Next full assessment: The Council will conduct a full assessment across the entire package of water reforms in 2005.

Reference: CoAG water reform agreement, clauses 6(a), 6(b), 8(b) and 8(c)

The *Water Act 2000* and other statutes covering water, vegetation and land use management are the legislative underpinnings of integrated catchment management in Queensland. The Chief Executive Officers' (CEOs) Land and Resources Committee establishes whole-of-government mechanisms to coordinate natural resources management, including the management of catchments. In particular, a regional natural resource management taskforce within the Department of Natural Resources and Mines provides central policy and planning mechanisms. The taskforce runs working groups to coordinate and guide natural resources management, including water quality management.

Queensland recently revised administrative arrangements for integrated catchment management to reflect the State's participation in the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust extension.⁶ The Queensland and Commonwealth governments signed a bilateral agreement on 1 March 2002 to invest up to A\$162 million in national action plan programs aimed at improving the health of Queensland's natural resources (including catchments) to ensure their sustainable use. At June 2003, the Queensland and Commonwealth governments were continuing to negotiate a bilateral agreement to implement the Natural Heritage Trust extension.

⁶ The Commonwealth Government extended the Natural Heritage Trust to 2006-07 in the May 2001 Budget. The implementation framework was endorsed in October 2002 by the Natural Resource Management Ministerial Council and State, Territory and Commonwealth Ministers. A significant focus is on measures to improve water quality.

A coordination group with representatives from several State agencies oversees Queensland arrangements under the national action plan and Natural Heritage Trust extension. Under the national action plan, program management boards with broad representation coordinate Statewide salinity and water quality initiatives. The Water Quality Workplan Implementation Board, for example, has representation from academia, the Commonwealth Scientific and Industrial Research Organisation, industry and government.

At the regional level, natural resource management plans are to be developed and implemented by 14 regional bodies designated by the Queensland and Commonwealth Joint Steering Committee. The regional bodies, which are autonomous and community based,⁷ have been structured to meet institutional and operational requirements of the national action plan and Natural Heritage Trust extension. The 14 regional plans will cover all of the State (see table 4.5). Queensland provides information for stakeholders on the development of regional strategies at www.nrm.qld.gov.au/salinity.

⁷ Under the national action plan and Natural Heritage Trust extension, Queensland must ensure that regional natural resource management bodies have a majority community membership which balances production and conservation interests, includes local government and seeks effective participation by all relevant stakeholders including indigenous interests. Nomination processes must be transparent and open to all.

Table 4.5: Natural Resource Management regions in Queensland

<i>Region</i>	<i>Principal natural resource management focus</i>
Torres Strait	Indigenous title issues, land degradation on islands, management of marine and fishing resources, and water quality issues from Papua New Guinea mining.
Cape York	Indigenous land use agreements, industry, conservation of natural resources, tourism, weeds and feral pests management.
Wet Tropics	Downstream effects of tourism and intensive agriculture and horticulture, including impacts on water quality in the Great Barrier Reef lagoon; reef water quality plan; acid sulphate soils; timber industry rainforest management.
Northern Gulf	Extensive agriculture and rangelands, mining, tourism and fishing in rivers and Gulf of Carpentaria.
Southern Gulf	Rangelands, grazing, weeds management, mining in the mineral provinces, conservation areas and tourism.
Burdekin	Intensive agriculture, irrigation, fishing, rangelands, weeds and feral pests, mining and old mine sites rehabilitation, reef water quality plan.
Mackay Whitsunday	Intensive agriculture, tourism, conservation, impacts on inshore and near shore reefs of Great Barrier Reef lagoon, reef water quality plan.
Fitzroy	Mining and old mine site rehabilitation, soil erosion, grazing land management, weeds and feral pests, reef water quality plan.
Lake Eyre	Rangelands, weeds and feral pests, remote area tourism, Great Artesian Basin.
Burnett/ Mary	Intensive agriculture, water allocations, salinity, horticulture, reef water quality plan.
Condamine	Irrigation, intensive agriculture, horticulture, soil and land degradation, water allocation, salinity.
Murray Darling	Irrigation, intensive agriculture, horticulture, soil and land degradation, water allocation, salinity.
Warrego Paroo	Grazing lands, rangelands, overland flow and beneficial flooding, weeds and feral pests, Great Artesian Basin.
South East Queensland	Population growth, urban expansion, acid sulphate soils, preservation of open space, tourism, intensive agriculture and horticulture, conservation and forest and timber industries.
Western South East Queensland Catchments	Agriculture, horticulture, irrigation, urban expansion, population growth lifestyle land tenures, water supply catchments and water quality impacts on Moreton Bay.

Source: Government of Queensland 2003b

Queensland reported that its 14 regional natural resource management bodies will build on the earlier work of around 40 catchment committees and 13 regional strategy groups. In 2001, Queensland reported that the Queensland Committee of Natural Heritage Ministers had endorsed 27 catchment strategies covering 80 per cent of the State. Some committees had commenced implementation of catchment strategies. In addition, the regional strategy groups were developing natural resource management plans for particular regions. All of Queensland had a regional strategy endorsed or in progress, drawing on input from community groups, industry and catchment groups.

While Queensland's 14 natural resource management plans will incorporate the regional strategies developed in 1997–2002, the national action plan and Natural Heritage Trust frameworks refine a number of the original processes, including for identifying strategic assets, and for setting targets and performance indicators for actions to manage threats to those assets. The revised plans will also draw on new information and current scientific approaches. The regional natural resource management bodies have been allocated A\$9.8 million of interim funding to undertake these tasks.

Queensland reported in 2003 that the regional bodies for the Burdekin dry tropics, the Fitzroy Basin, the Burnett and Mary basins, the Upper Brisbane catchment, the Condamine River catchment, and the Queensland Murray Darling (covering the Balonne Maranoa and Borders Rivers catchments) are progressing their revised plans. A draft plan has been circulated for the Queensland Murray Darling. There has been good progress in the Burdekin and the Fitzroy regions, but neither has yet finalised a draft plan for accreditation. Queensland expects to develop a timetable for the completion of plans by the end of calendar year 2003, noting that progress in some regions has been slow due to delays in the State's participation in the Natural Heritage Trust extension.

As was the case in 1997–2002, catchment strategies developed by catchment groups are the building blocks of the regional plans. The natural resource management plans developed by the Burnett Mary group are, for example, largely distilled from the Burnett and Mary catchment strategies, with relevant standards and targets added through an iterative process to meet the national action plan and Natural Heritage Trust requirements.

The chairs of Queensland's 14 regional bodies formed a collective in March 2002 to provide leadership, improve coordination and share workloads. In addition, Government agencies support the regional bodies in management planning and in identifying priority actions. In particular, four regional coordination groups, comprising State and Commonwealth Government officers, were formed in November 2002 to improve information flows, coordinate policy and provide general assistance. Queensland has also set terms of reference for a State Natural Resource Management Advisory Group to provide strategic policy advice and feedback on regional planning. The group has not yet convened.

Evaluation and review

Processes established under the national action plan provide frameworks to assist catchment managers in evaluating the effectiveness of natural resource management plans. In particular, the National Framework for Natural Resource Management Standards and Targets 2002 provides nationally agreed directions for and approaches to natural resource planning, target-setting, best practice management and performance measurement. Queensland's 14 regional bodies are required to adopt this framework to gain accreditation of their natural resource management plans. Queensland

published draft guidelines in September 2002 to assist regional groups in developing and gaining accreditation of their plans. Queensland expects to release revised guidelines in September 2003.

Beyond processes under the national action plan, Queensland is progressing a State Monitoring, Evaluation and Reporting Framework to address the effectiveness of natural resource planning and management by regional groups. In addition, processes adopted by the Brisbane City Council to monitor and evaluate management of the Brisbane River and Moreton Bay catchments are now being adopted elsewhere, including in the Burdekin and Townsville regions and the wet tropics catchments flowing into the Great Barrier Reef lagoon.

Coordination of quantity and quality issues

Queensland's natural resource management framework provides for coordination of water quantity and water quality issues. Queensland advised that consultation processes in several catchments on water resource plans and resource operation plans were designed in cooperation with regional natural resource management bodies. Queensland published draft guidelines that require regional natural resource management plans to recognise and be consistent with water resource plans and resource operation plans.

The State has identified opportunities to strengthen links between these activities by:

- promoting inputs from water resource plans and resource operation plans into natural resource management planning, including on relevant targets, policy, investment criteria, monitoring standards; and
- developing shared or complementary monitoring frameworks, adopting complementary approaches to on-ground investment, and using common data and triggers for planning reviews.

Queensland reported that the parties involved in water resource plans, resource operation plans and community-based natural resource management plans recognise the respective roles and responsibilities of their counterparts and are working towards complementary and coordinated approaches to managing water resources in their respective regions.

Salinity issues

The National Land and Water Audit was unable to estimate the extent of dryland salinity risk in Queensland in 2000 due to inadequate data on shallow groundwater systems.⁸ Based on the limited data available, the audit estimated that 3.1 million hectares of farming land could be seriously threatened in 50 years. The regions considered most at risk of dryland salinity are the Fitzroy, Murray–Darling, Gulf and Burdekin (NLWRA 2001). The audit also showed that water in the Condamine–Balonne and the Warrego rivers may be undrinkable in as soon as 50 years. In 2002, the Queensland Premier released a salinity hazard map for the Queensland Murray–Darling Basin, indicating that up to 26 million hectares of Queensland's section of the basin are at serious risk of salinity over the next 30–50 years (Beattie 2002).

Queensland proposes to address salinity issues through natural resource management plans developed under the national action plan as well as through land care practices (see below). Natural resource management planning will identify areas at risk and set and monitor targets on nationally agreed matters, as set out in the National Framework for Natural Resource Management Standards and Targets 2002. Queensland intends to focus on the catchments of the Fitzroy and Burdekin rivers; the Lockyer, Burnett and Mary rivers; the Balonne, Condamine and Maranoa rivers; and the Border rivers (NRM 2003b).

Land care

Queensland advised that over 325 groups (including Landcare, Bushcare, Coastcare and Environmental groups) participate in 300 types of land care activities. Statewide, these groups engage about 8000 persons. Land care activities take place in all regions of the State, with the highest concentration in the Murray–Darling catchments, the Moreton Bay catchments and the wet tropics. Other focal areas include the Fitzroy Basin (especially the Dee River), and parts of the Mackay Whitsunday coastline.

Weed control activities are the most common land care activity, followed by tree planting, mostly to protect riverine ecosystems and improve water quality. Farm-based nature conservation activity is also occurring, particularly in the Queensland headwaters areas of the Murray–Darling Basin and the rangelands of the Burdekin Basin.

Queensland reported that Landcare, Catchment, Environmental, Bushcare and Coastcare groups are now identified according to the geographical

⁸ Queensland was the only jurisdiction not assessed. The audit estimated that 48 000 hectares of farming land was subject to dryland salinity risk in 2000, based on field observations in the early 1990s and workshop based consultations.

boundaries of their respective natural resource management regions. The 14 regional natural resource management bodies will set the directions of these groups by using national action plan/Natural Heritage Trust funding to purchase actions required to help address their regional targets.

Queensland is undertaking additional measures to protect rivers with high environmental values. In May 2003, the Queensland and Commonwealth governments unveiled proposals to reduce land clearing in the State.⁹ Key elements under discussion include a phased elimination of broadacre clearing of remnant vegetation by 2006. As an interim measure, Queensland implemented a temporary halt on new land clearing permits from 16 May 2003. The Government also expects to release a rivers policy in 2004 to protect rivers with high conservation values. The policy will consider a range of issues including land care policies.

Water use plans

Queensland has a capacity under the Water Act to prepare water use plans to address or prevent land and water degradation associated with water use. Queensland did not consider it necessary to prepare water use plans by the time of the 2003 NCP assessment. Instead, its current approach to salinity and water quality issues is to focus on the development of regional salinity and water quality management strategies through natural resource management plans developed under the national action plan. Queensland indicated, however, that it would apply water use plans, as necessary, in the context of an approved regional natural resource management plan.

In addition, the Water Act requires that a Land and Water Management Plan be prepared for irrigation developments using new or additional water allocations (see also section 4.2). The plan must describe how and where irrigation water supplies are to be used, and address issues of soil suitability, salinity, erosion, drainage, the suitability of irrigation techniques and water quantities that may be applied. Queensland is also investigating other mechanisms through which to manage the impact of land use activities on water quality — for example, the Great Barrier Reef Protection Plan (see assessment of the National Water Quality Management Strategy in section 4.5).

⁹ The Australian Greenhouse Office reported that in 1999, Queensland accounted for around 80 per cent of the 469 000 hectares of woody vegetation cleared nationally. In Queensland, the clearing rates were 47 per cent higher in the last years of the decade than in 1990–95 (Environment Australia 2002).

Discussion and assessment

The Council found in 2001 that Queensland had demonstrated considerable progress in developing integrated catchment management strategies. It noted that implementation of strategies had commenced in parts of the State. Between the 2001 and 2003 NCP assessments, Queensland focused on revising the administrative framework to implement integrated catchment management in accord with the requirements of the national action plan and Natural Heritage Trust extension. Under the new arrangements, 14 regional bodies are to develop and implement regional natural resource management plans, building on the work previously undertaken by catchment committees and regional strategy groups. Queensland has established support mechanisms to assist the regional bodies in this work. While progress in some regions has been slow due to delays in the State's participation in the Natural Heritage Trust extension, the Queensland Murray Darling body has released a draft plan.

Refining the administrative framework has been a substantial task, and sets the groundwork for further reform. This work is, however, only the first step towards delivering integrated catchment management outcomes. The task now is to finalise the plans for accreditation and proceed to implementation.

The Council considers that Queensland made satisfactory progress for the 2003 NCP assessment against its integrated catchment management obligations. In particular, it:

- developed administrative arrangements and decision making processes to ensure an integrated approach to natural resource management; and
- adopted an integrated catchment approach to water resource management, and set in place arrangements to consult with local government and the wider community in individual catchments.

Queensland's natural resource management framework appears to facilitate the consideration of, and support for, land care practices to protect rivers with high environmental values. In particular, there are recent initiatives for substantially reducing the broadacre clearing of remnant vegetation in the State. As part of its full assessment of water reform in 2005, the Council will consider Queensland's progress in finalising and implementing regional natural resource management plans. The Council will also consider Queensland's proposed rivers policy to protect rivers with high conservation values.

4.5 National Water Quality Management Strategy

Assessment issue: Queensland is to demonstrate a high level of commitment to the ongoing implementation of the objectives of the National Water Quality Management Strategy (NWQMS), including action (through market-based and regulatory measures, water quality monitoring, catchment management policies, town wastewater and sewage disposal, and community consultation and awareness) to achieve the agreed objectives.

In the 2001 NCP assessment, the Council was satisfied that Queensland was meeting its 2001 obligations on the NWQMS, but expressed concern about the State's water quality monitoring arrangements.

Next full assessment: The Council will conduct a full assessment across the entire package of water reforms in 2005.

Reference: CoAG water reform agreement, clauses 8(b) and (d)

The Queensland Government developed, and is continuing to develop instruments to apply the NQWMS. It provided the following details on its implementation of key elements of the strategy.

Queensland Water Quality Guidelines

The Environmental Protection (Water) Policy 1997 adopts the NWQMS approach of establishing:

- the environmental values of waterways for protection;
- water quality objectives to protect environmental values; and
- protocols for sampling, measurement, analysis and reporting.

The purpose of setting environmental values is to protect waterways by directing appropriate land and water use planning and management. Environmental values, for example, provide direction to local government in developing plans on wastewater, stormwater, trade wastes and other matters affecting water quality.

As a basis for progressing its approach to water quality management, Queensland is using the NWQMS guidelines to develop a method of establishing the environmental values of waterways. The State conducted a trial to develop preliminary environmental values for the Condamine–Balonne river system, the river systems flowing to Moreton Bay, and Trinity Inlet (Cairns). The method is being refined in the Mary River catchment to ensure complementarity with the water resource planning process. More generally, the need to establish environmental values for waterways is being written into guidelines for developing regional natural resource management plans (see assessment of integrated catchment management).

At the time of the 2001 NCP assessment, the Environmental Protection Agency was developing Queensland Water Quality Guidelines based on the scientific framework outlined in the NWQMS. A draft of the guidelines had been presented to local governments, and publication on a web site was scheduled by September 2001. The Environmental Protection Agency reports that the draft guidelines allow water quality to be assessed against locally derived reference values, as recommended in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (NWQMS paper no. 4). If Queensland guidelines are not available for a particular indicator, then the Environmental Protection Agency refers parties to the relevant guidelines in NWQMS paper no. 4 (EPA 2003).

Queensland reported in 2003 that, while the draft guidelines are made available to parties on request, the Government recognised a need for further development work and has not formally published them. Queensland is engaged in the ongoing development of the guidelines, including the development of regionally appropriate environmental objectives in place of the national trigger values. In addition, the Government is extending traditional water quality assessment to river condition assessment through the development of indicators and indexes of aquatic ecosystem health. The Government is undertaking this work in partnership with research organisations. Queensland considered these approaches are consistent with the directions in NWQMS paper no. 4.

Queensland reported that it accords a high priority to formally approving and publishing its water quality guidelines. It expects to publish the first iteration (focussing on physical-chemical indicators) in December 2003. The process of collecting data to establish regionally relevant trigger values for a broad range of indicators will be ongoing.

South East Queensland Regional Water Quality Management Strategy

The South East Queensland Regional Water Quality Management Strategy, developed in cooperation with local government and community and industry groups, adopted NWQMS principles in establishing an integrated water quality plan for south east Queensland waterways. It established draft environmental values for waterways (using NWQMS methods), water quality objectives, a water quality monitoring program and a framework for management action. The strategy adopts the scientific framework outlined in NWQMS paper no. 4 and reflects the findings from baseline monitoring and modelling of water quality indicators.

Great Barrier Reef Protection Plan

The Queensland and Commonwealth governments signed a memorandum of understanding in August 2002 on a joint approach to protecting the Great Barrier Reef from land-based pollution. The Great Barrier Reef Protection Plan aims to halt and reverse within 10 years the decline in quality of water entering the reef. The plan identified practical actions to improve water quality and reduce adverse impacts on the marine environment. Many of these actions will be implemented through regional natural resource management plans (see assessment of integrated catchment management). Water quality targets developed in these regional plans will be consistent with the approach set out in NWQMS paper no. 4.

The Trinity Inlet Waterways initiative of April 2002 is a strategy to integrate the management of the core business activities of key agencies in the region — such as management of the fish habitat area, the marine park, and environmentally relevant activities. The initiative provides direction to local government planning bodies.

Other water quality management initiatives

Work conducted for water resource planning provides significant information for water quality management purposes. Queensland expects current studies on the Condamine and Fitzroy River catchments, for example, to improve understanding of the impact of flow changes on river health. Information from the studies will be used to develop more robust and relevant indicators of the ecological impact of water resource planning processes. Queensland expects the bulk of these studies to be completed by late 2004.

Queensland is also funding research on other water quality management issues, including:

- salinity and other human impacts on river health, as part of Queensland's participation in the national action plan (see 'integrated catchment management');
- the sustainability of lungfish and turtle populations in the Burnett River system; and
- inland aquatic ecosystems (research conducted in partnership with the Consortium for Integrated Resource Management) to inform the management of the health of waterways.

Water quality monitoring

The Environmental Protection Agency has primary responsibility for monitoring and assessing the quality of estuarine and near-coastal waters, while the Department of Natural Resources and Mines is responsible for freshwater quality. A report on water quality in Queensland (NRM 2000) described quality as good or excellent for most basins for which data are available. However, 14 basins had insufficient water quality data for analysis. Basins identified as being most likely to respond to improved management practices are the Condamine, Burnett, lower Mary, upper Mitchell, Dawson and Emerald. The Council observed in the 2001 NCP assessment that water quality objectives could be compromised in the absence of adequate data (NCC 2001e, pp. 136–7).

The National Land and Water Resources Audit 2000 commented on deficiencies in Queensland arrangements for monitoring shallow groundwater systems associated with dryland salinity. The audit considered that there was ‘an urgent need to establish a State-wide monitoring network of groundwater, surface water, key land use and biodiversity parameters to better inform managers of the trends and implications of dryland salinity.’ (NLWRA 2001).

Queensland has been reviewing its water quality monitoring arrangements to ensure that the scope of indicators, and their spatial and temporal coverage provides an adequate description of the condition of waterways. In line with NWQMS paper no. 4, Queensland is extending monitoring to include river biota (fish and macroinvertebrates). The Government is investigating a consolidated measure, similar to Victoria’s index of stream condition. A scoping workshop comprising internal and external experts has commenced work in this area.

To improve targeting of water quality monitoring programs, Queensland let a consultancy in June 2003 to review its current arrangements. Consistent with the Australian Guidelines for Water Quality Monitoring and Reporting (NWQMS paper no. 7), the first stage of the review will assess Queensland’s information needs from monitoring programs. This initial stage will take into account assessments such as those carried out internally (NRM 2000) and by the National Land and Water Resources Audit (NLWRA 2001)¹⁰. Queensland expects an initial consultancy report to be available in October 2003.

The review will later consider the design of monitoring programs to best meet information and evaluation needs over the longer term. These processes will

¹⁰ Queensland reported that the monitoring issue raised by the National Land and Water Resources Audit 2000 is also being addressed under the State Salinity Action Plan. The Government has completed salinity hazard mapping for the State and is now undertaking modelling to assess the risks posed by land use to physical and environmental assets. Hydrogeological investigations involving drilling programs will monitor groundwater levels and salinity concentrations.

observe NWQMS paper no. 7. An outcome of the consultancy will be to refine the proposed index of stream condition framework.

Based on the information needs identified by the consultancy, the Government aims to develop regional, issues-based partnerships for water quality monitoring with local government, regional natural resource management groups, industries and universities. The Moreton Bay Environmental Health Monitoring Program (under the South East Queensland Regional Water Quality Management Strategy) is an example of the type of waterway monitoring programs that Queensland envisages. The Moreton Bay program encompasses marine water, estuarine water and freshwater from Noosa to the New South Wales border, and uses a range of monitoring and reporting techniques covering aquatic ecosystem health. Local communities are actively involved with the program.

Coincident with these activities, Queensland is participating in field and other technical work in the trial of the 'Sustainable Rivers Audit' by the Murray–Darling Basin Commission. The trial aims to provide a scientific platform on which to base various indicators of river condition. The trial recognises that biota and biological processes are the fundamental measures of river health and, thus includes indexes for these. As noted above, Queensland is now extending all water quality monitoring to include river biota.

Queensland makes water quality and river health data available via publications and on the web sites of the Environmental Protection Agency (www.epa.qld.gov.au and www.healthywaterways.env.qld.gov.au) and the Department of Natural Resources and Mines (www.nrm.qld.gov.au). The Government is also developing a regional information services framework under the national action plan and Natural Heritage Trust extension to strengthen natural resource management information networks so water quality and river health data are available to assist regional natural resource management bodies in their planning.

Drinking water quality

The Australian Drinking Water Guidelines 1996 are incorporated into guidelines for the planning and design of water supply schemes in Queensland. Queensland Health is responsible for regulating drinking water quality. Currently, the department does not systematically monitor drinking water quality throughout the State. Suppliers can voluntarily submit samples of drinking water for testing by the department.

Queensland is reviewing the management of drinking water quality as part of the review of the *Health Act 1937*. Queensland expects a new Public Health Bill to be drafted by the end of 2003, and the new Public Health Act to be proclaimed in 2004. Queensland intends to introduce a requirement that public and private sector drinking water providers prepare drinking water

quality management plans based on the risk management framework of the Australian Drinking Water Guidelines 1996 (NWQMS paper no. 6).

In the interim, Queensland Health is developing guidelines in consultation with local government and the water industry on circumstances where water providers must notify Queensland Health of identified public health risks. Queensland intends to eventually incorporate the notification guidelines into the drinking water quality management plans under the Act.

Unpublished data (WSAA 2003) indicate that Gold Coast Water did not fully comply in 2001-02 with the Australian Drinking Water Guidelines for bacteriological standards and physical-chemical standards. Queensland reported that Gold Coast Water introduced new water quality sampling arrangements in 2001 that are more rigorous than the national guidelines. Gold Coast Water fully complied with the national guidelines on total coliforms and colour, and achieved 99.8 per cent compliance against the national guidelines on turbidity. Gold Coast Water achieved 97.66 per cent compliance with pH requirements and is taking action to address pH issues, which arise only in isolated parts of its network. Gold Coast Water considers that the nonconforming pH results would be excluded under the national guidelines as being 'nonrepresentative' and noted that the results were not at levels that raise public health issues. Queensland Health has standard arrangements in place with Gold Coast Water to advise of any possible health risk with water quality.

Guidelines for groundwater protection

Queensland has developed maps showing the vulnerability of aquifers to contamination from land use activities. The Government has provided copies to local governments for use in planning schemes, and to regional bodies for use in the development of natural resource management plans. Queensland has also amended the Water Act to require that water bore drillers be licensed and to set bore construction standards that protect aquifers from leakage. These initiatives reflect the NWQMS guidelines for groundwater protection (NWQMS paper No. 8).

Other NWQMS modules

Queensland is using the NWQMS guidelines for diffuse and point source pollution (NWQMS papers nos. 10–20a) as key reference documents in the development of State guidelines on urban stormwater management, sewerage effluent management, environmental planning and water services infrastructure funding. The *Environmental Protection Act 1994* also provides for the Minister to approve codes of practice for meeting general environmental duty. Several codes have been approved for agricultural industries. Queensland used the NWQMS guidelines for dairying (NWQMS

paper no. 16) and piggeries (NWQMS paper no. 17) as reference documents in the development of industry best practice codes.

Unpublished data (WSAA 2003) indicate that:

- Brisbane Water did not comply with the Environmental Protection Agency Licence for Wastewater from 1999-2000, although its compliance had improved significantly by the date of the 2003 NCP assessment.
- Gold Coast Water did not comply in 2001-02 with the Environmental Protection Agency Licence for Wastewater.

Queensland detailed a number of corrective actions taken by Brisbane Water to prevent any recurrence of noncompliance. Queensland reported that noncompliance for Gold Coast Water was primarily associated with plant augmentation, which is now completed. Gold Coast Water will also review the effectiveness of all plants to consistently meet licence requirements.

Discussion and assessment

Queensland continues to progress in implementing the NWQMS framework. Developments since the 2001 NCP assessment, some of which are still under way, include:

- progress in developing environmental values based on the NWQMS methods for several major river systems;
- the introduction of measures to improve water quality monitoring and information dissemination;
- the implementation of the NWQMS principles in the South East Queensland Regional Water Quality Management Strategy;
- a review of drinking water quality arrangements to align with the NWQMS guidelines; and
- progress in groundwater protection.

The State continues to refine the Queensland Water Quality Guidelines, which have been in development for several years. Queensland expects to publish a first iteration of the guidelines by the end of 2003.

The Council considers that Queensland is establishing appropriate processes, instruments and mechanisms to implement the key elements of the NWQMS. Progress in one important area — development of the Queensland Water Quality Guidelines — has been only gradual. The Council will look for the guidelines to be in place for the 2005 NCP assessment.

4.6 Water legislation review and reform

Assessment issue: Queensland is to have reviewed and, where appropriate, reformed all water industry legislation that restricts competition. Legislative restrictions that are retained must be shown to provide a net benefit to the whole community. Completion of review and reform obligations is a key element of the 2003 assessment. Where a review and/or reform implementation are not complete (or an appropriate transitional path to reform is not in place), the Council will consider that the relevant government has not complied with National Competition Policy obligations. In the 2002 assessment, Queensland had no outstanding water legislation reviews or reforms.

Next full assessment: This is the final assessment for legislation review and reform matters.

Reference: Competition Principles Agreement, clause 5

The Queensland *Water Act 2000* amended or repealed a range of water industry legislation. Queensland also reviewed and/or reformed several other water Acts.

The Water Act establishes Queensland's water allocation and water trading arrangements, via the development of water resource plans for catchments and basins (see section 4.3). The Act appears to impose no unwarranted restrictions — in particular, there is no requirement to own land or to have the ability to use the water in order to hold a water allocation. Under the Water Act, water resource plans specify the rules for the allocation of water, water allocation security objectives and environmental flow provisions. The water resource plans, which have effect for 10 years, are implemented through resource operations plans, which detail the day-to-day operational rules. The development of water trading will depend on the implementation of water resource and resource operations plans. In the 2001 NCP assessment, the Council was satisfied that water rights will be sufficiently well specified to facilitate trading once the resource operations plans are in place.

The Council considers that Queensland has completed all obligations under the Competition Principles Agreement in relation to the review and reform of the stock of water industry legislation.

4.7 Investments in new rural water schemes

Assessment issue: Investments in new rural water schemes or extensions to existing schemes are to be undertaken only after appraisal indicates the scheme or extension is economically viable and ecologically sustainable.

In 2001, the Queensland Government announced its intention to proceed with the Burnett Water Infrastructure Project. By the time of the 2002 NCP assessment, the project had passed through Queensland's environmental assessment processes (with the exception of the Ned Churchward Weir raising). The project had also been approved by the Commonwealth Minister for the Environment and Heritage under the *Environment Protection and Biodiversity Conservation Act 1999*. The Queensland Government modified the Burnett Basin water resource plan in 2001 to incorporate the impact of the proposed additional infrastructure, but was still to complete the resource operations plan. A study of the regional economic impact and a cost-benefit analysis included in the environmental impact assessment in October 2001 concluded the project would deliver significant net economic benefits.

Queensland will need to demonstrate that the Burnett infrastructure project satisfies the CoAG tests of economic viability and ecological sustainability before the project proceeds.

Next full assessment: The Council will examine investments made by the Government when the Government decides to proceed, to ensure that it has demonstrated that the project meets the tests of economic viability and ecological sustainability.

Reference: CoAG water reform agreement, clause 3(d)(iii)

In 2001, the Queensland Government announced its intention to proceed with the Burnett Water Infrastructure Project. The project comprises construction of the 300 gigalitre Burnett River Dam (previously referred to as the Paradise Dam), Eidsvold Weir and Barlil Weir, as well as the raising of Jones Weir and Ned Churchward (formerly Walla) Weir. The capital cost of the project is estimated at around A\$210 million.

The Government established a new State-owned company, Burnett Water Pty Ltd, to undertake impact assessment work, make applications for necessary approvals and complete all other work required to enable the construction and operation of the proposed infrastructure.

By the time of the 2002 NCP assessment:

- the project had passed through Queensland's environmental assessment processes (with the exception of the Ned Churchward Weir raising, for which the evaluation of the environmental impact statement was deferred) — the Queensland Coordinator-General determined that the detrimental impacts of the project would be adequately addressed through the adoption of a series of mitigation measures;

- the project had also been approved (subject to certain conditions) by the Commonwealth Minister for the Environment and Heritage under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*, in late 2001/early 2002 — further details of the environmental assessment processes are reported in the 2002 NCP assessment (NCC 2002, pp. 4.41–44); and
- the Queensland Government had modified the Burnett Basin water resource plan in 2001 to incorporate the impact of the proposed additional infrastructure.

A study of the regional economic impact and a cost-benefit analysis by Network Economics Consulting Group (NECG), included in the environmental impact assessment in October 2001, concluded the project would deliver significant net economic benefits (NECG 2001). Depending on assumptions concerning the speed of take up of the water, the net economic benefit was estimated at between A\$1.7 billion and A\$2.2 billion (using a 6 per cent real discount rate). The study projected that the value of agricultural production would increase by over A\$1 billion per year. This was expected to support the creation of over 7500 jobs, three-quarters of which would be in the Wide Bay–Burnett region. The project's construction phase was expected to produce 1200 full-time jobs and to support the retention of 1700 existing jobs. In the 2002 NCP assessment, the Council stated that it considered the NECG report to represent best practice because of the extent and depth of the analysis (and clear presentation of the strengths and limitations of the analysis) and the experience and credibility of the analysts (NCC 2002, p. 4.43).

Finalisation of the Burnett Basin resource operations plan (which is necessary for the dam to receive a firm water allocation) was a condition for a final decision to proceed with the dam.

Developments since 2002

Following the completion of the Burnett Basin resource operations plan in May 2003 (see section 4.2), the Queensland Government's commitment to proceed with the Burnett Water Infrastructure Project was confirmed in its 2003-04 Budget in June 2003 (Government of Queensland 2003c, p. 20). In addition to the more than A\$30 million already spent on the project, the Government has provided A\$60.5 million in 2003-04 for construction and related activity. Construction is expected to commence in late 2003. The raising of the Ned Churchward Weir, however, cannot proceed before the Coordinator-General's evaluation of the weir raising is completed and approval is obtained under the Commonwealth's Environment Protection and Biodiversity Conservation Act.

Developments related to ecological sustainability

Since the completion of the environmental impact statement, Burnett Water and its advisers have undertaken extensive additional hydrological modelling work to confirm that operational arrangements for the project will comply with the requirements of the water resource plan for the Burnett Basin. Following scrutiny of this work by the Department of Natural Resources and Mines, the Government incorporated the water to be reserved for the proposed infrastructure in the draft resource operations plan which was released for consultation in December 2002. After further public consultation, the resource operations plan was finalised in late May 2003. While the water reservations were included in the plan, the available operational details were not included in either the draft or final plan, to provide scope to optimise performance levels during finalisation of the detailed design and the early construction phase.

In 2002, the Government allocated A\$7 million, under the Burnett Program of Actions, to address long-standing whole-of-catchment environmental issues identified during the environmental impact statement process and to assist in finalising the evaluation of the environmental impact statement for raising of the Ned Churchward Weir. The issues being addressed by the program include water quality, fish passage, rehabilitation of vegetation and the sustainability of lungfish and turtle populations (with the latter of particular importance for the Ned Churchward Weir raising). Queensland advised that, although this research is being accorded a high priority, it is not clear when sufficient information will be available to finalise the evaluation of the environmental impact statement for raising the Ned Churchward Weir. As an interim measure, the Department of Natural Resources and Mines has reserved water for the weir raising in the resource operations plan, to facilitate the process if the outstanding environmental issues are adequately resolved.

The development conditions that have been placed on Burnett Water through the environmental impact statement and related processes were gazetted by the Minister for State Development in October 2002. The conditions oblige Burnett Water to implement a comprehensive set of environmental measures to mitigate any adverse impacts from the dam and to ensure the sustainability of important animal and vegetation species. A net gain for conservation in relation to vegetation is one of the key conditions mandated by the relevant requirements arising from the environmental impact statement process.

In December 2002, as part of addressing these requirements, the Goodnight Scrub National Park was expanded. The area of the national park was increased by 340 hectares (the new area of 395 hectares less 55 hectares being revoked to accommodate the dam). In addition, Queensland advised that Burnett Water is committed to:

- seeking to purchase further high value conservation land for addition to the conservation estate, with a target of acquiring an additional 110 hectares for this purpose;
- providing financial compensation to the Queensland Parks and Wildlife Service for the value of resources to be lost from the reserve associated with the national park — this financial compensation will be used to expand the conservation estate; and
- retaining most of the revoked national park land in its present condition where it is vegetated — the area between the full supply level and the one-in-100-year flood line (with the dam in place) will continue to be available for wildlife use as an effective extension of the national park.

Developments related to economic viability

To build on the NECG study of the economic impacts of the project, undertaken during the environmental impact assessment process, Queensland commissioned considerable further work. The work focused on:

- the prospects for Burnett primary producers and the key commodities produced by them; and
- the capacity and willingness of potential users to pay for new water allocations at prices that at least meet the minimum levels of cost recovery required by CoAG.

The additional studies contain commercial-in-confidence material and have not been made public by Queensland. Queensland reported, however, on several of the findings in its 2003 NCP annual report (Government of Queensland 2003a). Queensland also provided the Council with a copy of each of the studies on a commercial-in-confidence basis. The following information is mainly drawn from Queensland's annual report, but reflects the findings of the studies.

During 2002, Burnett Water commissioned ACIL Consulting (now ACIL Tasman) to examine independently the agricultural production increases estimated by NECG. NECG estimated that additional agricultural production would total over A\$1 billion a year. In the long term (15 years), most of the increase was projected to result from increased horticulture (vegetables, citrus, other fruit and nuts), but with sugar production the main contributor in the intervening period. While increased pigmeat and dairy production was also projected, these activities were estimated to be a minor contributor to the overall increase. The projected production increases, relative to current levels, are substantial, particularly for horticulture. The projections implied a five to six fold increase in horticultural production and a 25 per cent increase in sugar cane production at full development.

ACIL was asked to examine whether the level of increase in agricultural production projected by NECG is reasonable in the context of the production resources required and market opportunities for the commodities concerned. The ACIL report also discussed risks that could affect regional prospects. ACIL found that, while some of the production increases projected by NECG are substantial, the implied annual average rates of increase in production are not dissimilar to, and in many cases much smaller than, the rates achieved in recent years in the Burnett region. ACIL concluded that:

The key point about the NECG projected production increases is that they are not inconsistent with the track record for horticultural production in the region which in turn reflects market opportunities and the demonstrated capacity of producers to compete against suppliers elsewhere in Australia as well as overseas. Indeed compared to the recent past they appear to be conservative. (Government of Queensland 2003a, p. 79)

During 2002, the Department of State Development commissioned PricewaterhouseCoopers to investigate and provide advice on a range of water market issues related to the Burnett project. PricewaterhouseCoopers prepared four reports:

- *Investment Scenarios of the Burnett Basin Water Projects* (February 2002), referred to below as study 1;
- *Water Pricing Issues for the Burnett Basin* (August 2002), study 2;
- *Burnett Water Projects — Market Analysis* (December 2002), study 3; and
- *Burnett Water Projects — Pricing Proposals* (December 2002), study 4.

Queensland advised that the studies confirm that regional water demand is in excess of the new entitlements to be created by the Burnett project and that these entitlements will be able to be sold and/or leased at price levels that address CoAG requirements.

Study 1 investigated the appropriateness of a Government role in the project. The study assessed the economic growth prospects of the region, relative to the rest of Queensland, with and without the water infrastructure project. It also compared the dam and associated weir projects to alternative ways of achieving the Government's employment and development objectives for the region. In addition, the study developed a model for the purposes of analysing the commercial viability of the project and Government (community service obligation) funding requirements, based on price and demand information. The Queensland Government accepted the study's results, and associated sensitivity analysis, as a basis for advancing the project.

Study 2 considered the appropriate basis for establishing an efficient price for water from the Burnett project. The study discussed key issues to be considered in setting an efficient price, including the indicative cost of delivering water services, the structure of appropriate charges, the level of cost recovery that should be supported by those charges and an efficient economic framework for establishing prices. This study was mainly an explanation of factors relevant to pricing and is not central to the assessment of economic viability.

Study 3 provided information on the willingness and ability of irrigators to pay for new water services. The study was based on a farm survey program and associated statistical analysis. Queensland advised that the financial modelling of irrigators' ability to pay reinforced the results of the willingness to pay surveys, suggesting that most types of irrigated farms have the capacity to pay significant up front amounts to purchase water entitlements (in addition to annual delivery charges). For sugar cane farms, the analysis indicated an inability to purchase entitlements in a once-off payment but the capacity to pay significant annual amounts to lease water entitlements. Queensland advised that the main findings from the market analysis indicated:

- customers are prepared to pay significant up-front amounts to purchase water allocations, in excess of the ARMCANZ minimum price benchmark;
- willingness and ability to pay profiles vary significantly across three subregions within the Burnett River catchment; and
- some customer classes (in particular, small sugar cane farms) are unlikely to have the financial capacity to pay to purchase water through a single up-front instalment.

Study 4 updated and brought the previous studies together, explored price setting procedures for the Burnett project and discussed potential community service obligation (CSO) implications. Queensland advised that, in this study, PricewaterhouseCoopers proposed a final price setting procedure involving:

- establishment of a 'pre-sale' process by tender, before the infrastructure is completed, to provide a means of testing the market and creating revealed price signals to prospective customers;
- sale of high security water entitlements through a separate tender process;
- sale of medium security water entitlements through an auction process with
 - a single round auction of central and southern region allocations and
 - a staged auction process for the lower region (given the larger volumes);

- further investigation of mechanisms to support a form of ‘instalment plan’ for bidders to purchase entitlements through a series of annual payments;
- establishment of a reserve price of at least the minimum cost recovery benchmark (having regard to ongoing delivery charges), but not releasing this information to bidders as this would compromise achievement of the competitive benefits of the market mechanism;
- no pre-defined quantitative limit on the amount of water released in initial sales, to avoid any possible inappropriate use of market power by the project proponents; and
- no constraints in terms of land ownership or the purpose for which water can be used, as this would lead to constraints on the depth of the market.

The Queensland Government intends that water marketing be undertaken by a commercial marketing organisation, to be appointed through a competitive process.

Submissions

The Council received two submissions relating to the economic viability and ecological sustainability of the Burnett project.

Burnett Water for All, representing various community and industry groups, opposed the project on the basis that it is not economically viable or environmentally or socially sustainable. It considered that the Queensland Government is fully committed to the project and requested the Council to undertake a supplementary assessment of the project during 2003-04. The group raised several matters, in addition to its criticisms of the water resource planning process for the Burnett Basin (see section 4.2), to support its views, including the following.

- To cover capital expenditure, the cost of the water from Burnett Dam should be around A\$1270 per megalitre. Bundaberg cane growers are arguing that this cost will be too high and the most they are prepared to pay is around A\$375 per megalitre. Based on this, it is very doubtful whether the dam will be subject to full cost recovery.

- In its response to the environmental impact assessment, Queensland Treasury seriously questioned the claimed economic benefits, stating they are optimistic.¹¹ The projected A\$650 million in additional vegetable production, for example, represents a 120 per cent increase over existing production levels in Queensland as a whole (A\$540 million). It is also questionable whether markets have been identified for this level of vegetable produce.
- The economic analysis in the environmental impact statement does not account for the economic costs to the region resulting from: losses from reduced water harvesting; losses from reduced water reliability; increased salinity; the loss of future opportunities for inland Burnett communities; algal blooms; losses to fishing and tourism; the loss of ecosystem services; and compliance with mitigation strategies.
- An alternative dam site on Degilbo Creek would provide around 80 per cent of the water yield of the Burnett River Dam but cost only A\$30 million to build. It would also cause far less environmental impact.
- Salinity effects have not been properly considered in the assessment of the project.
- The dam will flood a large section of the habitat of two threatened species, the Queensland lungfish and the Elseya turtle.
- The Queensland Government has ignored the views of the Burnett Catchment Care Association, clearly showing the Government's level of commitment to integrated catchment management.

The Queensland Conservation Council remained extremely concerned that the Queensland Government is committed to the Burnett River Dam despite strong evidence suggesting the dam is neither ecologically sustainable or economically viable. The Queensland Conservation Council contended that a large number of questions remain regarding the project's compliance with CoAG obligations and requested the Council to undertake a supplementary assessment of the project during 2003-04.

In relation to economic viability, the Queensland Conservation Council considered that the current state and future of the sugar industry cast considerable doubt on the economic evaluation by NECG, with cane production in the Burnett region likely to contract rather than expand and cane growers not able to afford to pay a reasonable price for water. The Queensland Conservation Council and the Australian Conservation Foundation provided the Council with a copy of a study, which they had

¹¹ The Queensland Government advised that the comments from Queensland Treasury related to an early theoretical water allocation scenario before more detailed water infrastructure project specifications and feasibility information were developed. It also advised that the NECG study considered all relevant issues, including those raised by Treasury.

commissioned, questioning the economic viability of the project. The study questioned the level of likely water demand at CoAG-complying water prices, particularly at future depressed sugar and cane prices. The study also adopted a significantly higher estimate of environmental costs than the NECG evaluation. Based on available data, the study concluded that the project's rate of return would be lower than required for it to be considered economically viable. It also concluded that 'there is no reasonable expectation that the economic benefits arising from [alternative lower volume] scenarios will be exceeded by the high volume Burnett River Dam project' (Queensland Conservation Council 2003b, p. 3).

In relation to the project's environmental impacts, the Queensland Conservation Council reiterated concerns it expressed in previous submissions. In particular, as noted in section 4.2, it considered that the water resource plan for the Burnett Basin will not provide sustainable environmental flows. It considered that the project would be likely to have major impacts on ecological conditions within the river and was concerned that insufficient action was being taken to maintain lungfish habitat. The Queensland Conservation Council also expressed concern that the resource operations plan for the Burnett Basin could be amended without public consultation to accommodate the detailed design, operation and management specifications for the dam. It considered that development of the dam warrants the highest level of public scrutiny.

Discussion and assessment

The Council aims to assess new rural schemes against the CoAG obligations on economic viability and ecological sustainability in the year in which the relevant government decides the scheme can proceed. Given that the Queensland Government confirmed in June 2003 its intention to proceed with the Burnett Water Infrastructure Project, the Council assessed Queensland's compliance with CoAG obligations as part of the 2003 NCP assessment.

The Queensland Government considered that the economic viability and ecological sustainability of the Burnett River Dam and associated weirs have been clearly demonstrated and that the assessment processes have been exhaustive. It pointed to the extensive public consultation that it has undertaken on water allocation and environmental issues. In relation to alternative options, Queensland advised that, as reported in the environmental impact assessment study, the Government investigated other supply and demand management options but found that these would not adequately address the region's water requirements.

While submissions criticised the ecological sustainability of the Burnett project, as the Council noted in the 2002 NCP assessment, with the exception of the raising of the Ned Churchward Weir, the project passed through Queensland's environmental assessment processes. It was also approved under the Commonwealth's Environment Protection and Biodiversity Conservation Act. The Queensland Government advised that various

processes are under way to meet the environmental conditions imposed on the project. In addition, in the 2002 NCP assessment, the Council concluded that the modified water resource plan for the Burnett Basin, which accommodates the project, complies with CoAG commitments. As discussed in section 4.2, the Council also considers that the resource operations plan should be sufficient to meet CoAG environmental flow requirements. The Council, therefore, considers that Queensland met its CoAG obligation to show that the project is ecologically sustainable, with the exception of the raising of the Ned Churchward Weir for which the environmental processes are still to be completed.

Burnett Water and the Department of State Development commissioned studies of the economic and commercial aspects of the project. The economic analysis undertaken by NECG as part of the environmental impact assessment process concluded that the project would deliver significant net economic benefits, estimated at A\$1.7–\$2.2 billion (at a real discount rate of 6 per cent). A subsequent study by ACIL Consulting support the level of increase in agricultural production projected in the NECG study. In addition, studies by PricewaterhouseCoopers indicated that regional water demand would be sufficient to take up the new entitlements from the Burnett project and that these entitlements could be sold and/or leased at price levels that address CoAG requirements.

The findings in the NECG evaluation (the only work that is publicly available) were questioned in submissions and particularly in the study commissioned by the Queensland Conservation Council and the Australian Conservation Foundation. The study concluded that the project's rate of return would be lower than required for it to be considered economically viable. The study, and the submissions that questioned the Burnett project, were prepared without the benefit of the additional confidential studies that the Queensland Government made available to the Council.

In response to the issues raised in submissions and the Queensland Conservation Council and the Australian Conservation Foundation study, the Queensland Government provided additional information to the Council, including further work from NECG and PricewaterhouseCoopers. In a report to Burnett Water, subsequently provided to the Council, NECG advised that it considers the Queensland Conservation Council/Australian Conservation Foundation study to have serious deficiencies (NECG 2003). Among other criticisms, NECG considered the study:

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- incorrectly suggests that CoAG requires ‘upper bound’ prices to be recovered from water users, whereas CoAG permits ‘lower bound’ pricing with transparent CSO funding and requires economic viability not commercial viability;
 - seriously inflates environmental costs, including by not taking account of the mitigation strategies endorsed by Commonwealth and State authorities — Burnett Water’s estimate of the total environmental costs associated with the development of the dam is approximately A\$17 million, compared with the estimate in the study of A\$130 million, with ongoing costs in the order of A\$1 million per annum;
 - overestimates the cost of water to irrigators (and CoAG-complying water prices), including through the exaggerated estimate of environmental costs;
 - uses a short-term and simplistic view of the economics of the sugar industry — NECG noted ACIL’s finding that, despite current low prices, sugar could still be profitably grown, with prices expected to rise in the near term, and NECG pointed to opportunities for farmers to shift to other production if sugar returns fall to unacceptably low levels; and
 - contains other errors, including assumptions that the capital costs associated with the dam would be amortised over 25 years (compared with a dam life of at least 150 years) and that water entitlements would effectively have no value at that time, and ignoring demand for higher priced, high security water.

NECG concluded that:

... project specific studies [have been] undertaken by leading consultants on the socio-economic impact, economic cost-benefit, commodity markets and the water market. All have demonstrated that the project is economically robust. The sole dissenting voice is the QCC-commissioned paper, prepared without reference to Burnett Water. It suffers from factual errors in its data and technical approach.

The Burnett River Dam is an economically and commercially robust project. (NECG 2003, p. 29)

PricewaterhouseCoopers made similar criticisms of the Queensland Conservation Council/Australian Conservation Foundation study in correspondence to the Department of State Development sighted by the Council.

Accounting for the confidential studies and the further information provided by Queensland in response to the criticisms raised in submissions and the study, the Council considers that Queensland met its CoAG obligation to show that the project is economically viable.

The Council, therefore, concludes that Queensland met CoAG obligations for the Burnett Water Infrastructure Project, with the exception of the ecological sustainability of the raising of the Ned Churchward Weir. For the raising of the weir, the Council considers that approval under Queensland's and the Commonwealth's environmental approval processes, and a commitment by Queensland to meet any conditions imposed as a result of these processes, would demonstrate compliance with the CoAG obligation on ecological sustainability.